GOVERNMENT OF INDIA
MINISTRY OF COMMERCE

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REPORT

OF THE

INDIAN TARIFF BOARD

ON THE CONTINUANCE OF PROTECTION TO THE GLASS INDUSTRY

BOMBAY
1950

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GOVERNMENT OF INDIA
MINISTRY OF COMMERCE

RESOLUTION
(Tariffs)

New Delhi, the 25th February, 1950.

No. 11(1)-T.B./50. The Tariff Board, which was asked to enquire into the claim for protection of the glass and glassware (including bangles) industry in March, 1948, has submitted its report. The scope of the enquiry has been confined to the following items of glass and glassware which are produced in the country in sufficient quantities:-

(i) Sheet glass between 16 oz. and 32 oz. gauge;
(ii) Bottleware, tableware, lampware, and pressedware; and
(iii) Bangles.

2. The Board's recommendations are as follows:-

SECTION I - GENERAL

(1) Machinery should be installed for washing and grading of sand so as to improve the colour and uniformity of the finished product.

(2) Detailed investigations should be undertaken by the Geological Survey of India for discovering deposits of sand of high quality.

(3) Both the soda ash industry and the glass industry should co-operate so as to make possible the use of the indigenous light soda ash by the glass industry and the simultaneous development of the production of heavy ash by the soda ash manufacturers.

(4) The development Committee of the Directorate General of Industries and Supplies should explore the possibility of meeting the full requirements of the glass industry in respect of refractories from indigenous sources.

SECTION II - SHEET GLASS

(1) An increase in the existing duty on sheet glass is not justified on the basis of comparison of the landed cost ex-duty of imported sheet glass with the Board's estimate of the fair selling price of indigenous sheet glass.

(2) The existing revenue duty of 45 per cent. *ad valorem* on sheet glass of all gauges should be converted into an equivalent protective duty and should remain in force for a period of two years in the first instance, *i.e.*, up to 31st March, 1952.

(3) The protection recommended should adequately safeguard the industry and, as such, restriction on imports of sheet glass is not necessary except on balance of payments considerations.

(1) The continuance of the concession of duty on imported soda ash will not offer inducement to the glass manufacturers to use indigenous light ash nor to the manufacturers of soda ash to produce the variety of ash required by the glass industry, thereby impeding the development of the soda ash industry in the country. The concession should, therefore, be withdrawn.

(5) Separate records relating to imports of sheet glass should be maintained by the customs authorities.

(6) In respect of the grant of concessional freight rates for the transport of soda ash, the industry should make specific proposals to the Railway Board for consideration.

SECTION III - BLOWNWARE AND PRESSEDWARE

(1) The estimated fair selling prices of indigenous articles of blownware and pressedware are considerably lower than the landed costs of the corresponding imports. The need for the imposition of a protective duty, therefore, does not arise.

(2) All possible facilities should be afforded to the industry to secure the requisite technical personnel and such automatic or semi-automatic machinery as it desires to instal in order to improve the quality of its products and to expand its production.

(3) Licences for imports of blownware and pressedware should be issued only to the extent that the indigenous production falls below the actual requirements of the country.

(4) While import controls might be necessary for balance of payments considerations, they should not be made the instrument of protection of indigenous industries. There should not also be sudden and large reversals of policy. Before import restrictions are relaxed or removed, the possible repercussions on the indigenous industry should be taken into account, particularly because of the tendency to resort to speculative imports irrespective of the quantum of actual demand.

SECTION IV - BANGLES

(1) The existing revenue duty of 60 per cent. *ad valorem* sufficiently safeguards the position of the bangles industry.

(2) Although some of the bangles produced indicate a high degree of skill on the part of the fabricators, further improvement in technical efficiency can only be brought about by properly orgainsed research for which necessary technical assistance should be rendered to the industry.

(3) In their trade negotiations with neighbouring countries, Government should negotiate for exports of indigenous bangles to those countries.

(4) When trade relations are resumed between India and Pakistan and negotiations between the two countries take place, the question of securing concessional duties on bangles exported to Pakistan should be included in such negotiations.

(5) The Government of U. P. should make available to the bangle factories sufficient quantities of raw materials and consumable stores.

(6) The bangle manufacturers of U. P. should organise themselves into one single association for the development of the industry on healthy lines. This association should obtain and distribute liquid gold among the bangle manufacturers.

SECTION V

SUGGESTIONS FOR THE DEVELOPMENT OF THE GLASS INDUSTRY

(1) As mechanisation would considerably improve the quality of sheet glass and also raise output, early steps should be taken by the sheet glass units to mechanise all branches of this section of the industry. In respect of blownware and pressedware, large-scale mechanisation is not feasible in view of the limited variety of articles which can be produced on the automatic machines while semi-automatic machines are indispensable for producing certain goods to meet the requirements of small-scale consumers. Greater efficiency could, however, be secured by better utilisation of labour, use of proper glass compositions, moulds of good quality, and stricter control of operating conditions. Although complete mechanisation of bangle-making is not desirable in view of the fact that it is essentially a cottage industry, Provincial Governments concerned should consider how far and in what manner the bangles industry can be mechanised for improving the technical efficiency without, at the same time, causing hardship to the labour employed.

(2) Steps should be taken by the manufacturers of glass to avoid wasteful use of soda ash and coal.

(3) For the economical utilisation of fuel as well as kerosene oil, the bangle industry should set up at an early date a central gas plant in Firozabad with the co-operation of the U. P. Government.

(4) Until such time as the glass industry is in a position to have its own well-equipped laboratory for conducting research in various branches of glass manufacture, such research should be undertaken on behalf of the industry by the Central Glass and Ceramic Research Institute at Calcutta, the expenditure on such research being met by contributions from the glass industry.

(5) The industry should undertake schemes for training of operatives in various processes of glass manufacture both in its own factories and in factories in foreign countries. As the bangles industry is mainly located in U.P., the Provincial Government should consider the question of the establishment of a State-aided school for specialised training in bangle manufacture at Firozabad.

(6) Steps should be taken by the Director General of Industry & Supply, for the grading of factories which is necessary to bring about an improvement in their productive efficiency.

(7) The industry should strictly adhere to standards to be prescribed for various products in consultation with the Indian Standards Institution.

(8) The All India Glass Manufacturers' Federation and the Glass Bangles Industrial Syndicate should take concerted steps for the maintenance of reliable statistics in respect of rated capacity and production of various types of glass and glassware, including bangles.

3. Government accept recommendations (1) and (2) in Section II and steps will be taken to implement them.

4. As regards recommendation (6) in Section V, Government consider that the grading of factories should be done by the Glass Manufacturers' Federation rather than by Government.

5. Recommendations (2) in Section I, (2) in Section IV, and (4) in Section V are under examination.

6. Government accept in principle the other recommendations and steps will be taken to give effect to them as far as possible.

7. Recommendations (5) of Section IV and (1), (3) and (5) of Section V will be brought to the notice of the States concerned.

8. The attention of the industry is invited to the recommendations concerning them.

PRELIMINARY

We propose in the first section of this report briefly to deal with the recommendations of the Tariff Board of 1931 on the Glass Industry and the Government of India's decision on them as well as with the terms of reference, the scope and method of the present inquiry, followed by a brief description of the raw materials used in the manufacture of glass and glassware. The next three sections deal respectively with the three important sections of the industry, namely, sheet glass, blownware and pressedware and bangles. The fifth section is devoted to suggestions and recommendations for the development of the glass industry as a whole. The last section gives a summary of our conclusions and recommendations.

REPORT ON THE GLASS INDUSTRY

SECTION I - GENERAL

Previous Tariff Board's Report.

1. The claim of the glass industry for protection or assistance was referred to the Tariff Board for the first time in the Government of India, Commerce Department's Resolution No. 458-T(2) dated 20th October, 1931. In making its enquiry, the Tariff Board was chiefly to consider whether the conditions laid down in the Report of the Indian Fiscal Commission were satisfied in the case of the industry. These conditions were as follows:-

"(1) The industry must be one possessing natural advantages such as an abundant supply of raw material, cheap power, a sufficient supply of labour or a large home market. Such advantages will be of different relative importance in different industries but they should all be weighed and their relative importance assessed. The successful industries of the world possess certain comparative advantages to which they owe their success. No industry which does not possess some comparative advantages will be able to compete with them on equal terms and, therefore, the natural advantages possessed by Indian industry should be analysed carefully in order to ensure as far as possible that no industry is protected which will become a permanent burden on the community.

(2) The industry must be one which without the help of protection either is not likely to develop at all or is not likely to develop so rapidly as is desirable in the interests of the country. This is an obvious corollary from the principles

which have led us to recommend protection. The main object of protection is either to develop industries which otherwise would not be developed or to develop them with greater rapidity.

(3) The industry must be one which will eventually be able to face world competition without protection. In forming an estimate of the potentialities of this condition being fulfilled, the natural advantages referred to in condition (1) will, of course, be considered carefully. The importance of this condition is obvious. The protection we contemplate is a temporary protection to be given to industries which will eventually be able to stand alone."

The Board submitted its Report in March, 1932. The Board found that, with the exception of borax and soda ash, the other raw materials for the manufacture of glass were available in the country. Borax was mainly imported from Tibet, the nearness of which was, in the opinion of the Board, a natural advantage. The Board also took the view that the high cost of soda ash used in the manufacture of glass by Indian factories was partly due to the high rate of import duty in force and, in the case of blownware, was partly due to the excessive use of soda ash in Indian factories. The Board was of the opinion that the sum total of the advantages enjoyed by the industry in other respects could offset the disadvantage resulting from the necessity of having to import soda ash. The Board, therefore, came to the conclusion that the dependence on imported soda ash did not invalidate the claim to protection, especially when there was a reasonable prospect of the manufacture of that material within the country itself. The Board accordingly recommended the imposition of protective duties at specified rates on certain types of glass and glassware (*Vide* Appendix I). It was also necessary in the opinion of the

Board that protection should be guaranteed for a sufficiently long period to enable the industry to undertake the necessary technical improvements; and, therefore, it recommended that the protective duties suggested by it should be in force for a period of ten years. Among the measures recommended by the Board for the improvement of the manufacturing processes were improvement in the quality of Indian sands by washing and grading; arrangements for advising glass manufacturers regarding the type and size of furnace and its operation, the avoidance of wastage on account of excessive use of raw materials as well as of breakage of finished products; establishment of an institute for research and training in glass technology and the provision of studentships at such an institute. The Government of India having considered the above recommendations, announced their decision in their Resolution No.458-T(14), dated 22nd June, 1935. Government stated that they were not in a position to accept the recommendation for the imposition of protective duties on imported glass and glassware on the ground that there was no indigenous source of supply of one of the important raw materials, *viz.*, soda ash, and withheld their final decision on the claim of the industry for protection. However, by way of relief to the industry, Government granted a refund of the entire duty on soda ash of British or British Colonial origin and of the excess over 10 per cent. *ad valorem* in the case of other soda ash. The text of this Resolution will be found in Appendix I.

Application for protection and terms of reference to the present Board.

2. (a) An application for protection or assistance to the glass and glassware industry was made to the Department of Commerce, Government of India, by the Indus Glass Works, Hyderabad, on 3rd May, 1947. This was followed by an application dated 15th May, 1947, from Shri Mathur Glass Works, Firozabad (Agra). On 21st July, 1947, the All India Glass Manufacturers' Federation, New Delhi, submitted a representation in which it drew the attention of Government to the general shortage of certain raw materials and

consumable stores on which the industry had to pay high prices and for which difficulties of transport were being experienced. The Association further pointed out that glass manufacture being a continuous process, stoppage of production at intervals due to lack of raw materials resulted in heavy losses involved in reconstruction and reheating of furnaces and maintenance of a skilled labour force. The manufacturers of glass, therefore, requested Government to assist the industry and also to protect it against foreign competition by imposing a 100 per cent. protective duty on all kinds of glassware, to be in force for a period of eight to ten years, and by restricting imports of such varieties of glass as are manufactured in the country. The representation of the Association was supported by the Upper India Chamber of Commerce, Kanpur, the Employers' Association of Northern India, Kanpur, the Indian Merchants' Chamber, Bombay, the Mahakoshal Chamber of Commerce, Jubbulpore, the Indian Chamber of Commerce, Guntur, the Chittagong Chamber of Commerce, Chittagong, the Western U.P. Chamber of Commerce, Meerut, the Association of Indian Industries, Bombay, and the Bengal Glass Manufacturers' Association, Calcutta. After examining these representations, the Government of India in the Ministry of Commerce referred to the Board for inquiry the case of the glass and glassware (including bangles) industry in their Resolution No.1-T(4)/48 dated 20th March, 1948, read with paragraphs 2 and 7 of their Resolution in the Department of Commerce No. 218-T(55)/45, dated 3rd November, 1945, and paragraph 4 of their Resolution bearing the same number, dated 16th February, 1946.

(b) Under the terms of reference contained in the Resolution dated 3rd November, 1945, the Board has to satisfy itself:-

"(1) that the industry is established and conducted on sound business lines; and

(2) (i) that, having regard to the natural or economic advantages enjoyed by the industry and its actual

or probable costs, it is likely within a reasonable time to develop sufficiently to be able to carry on successfully without protection or State assistance; or

(ii) that it is an industry to which it is desirable in the national interest to grant protection or assistance and that the probable cost of such protection or assistance to the community is not excessive."

Where a claim to protection or assistance is found to be established, *i.e.*, if condition (1) and condition (2) (i) or (ii) are satisfied, the Board will recommend -

"(i) Whether, at what rate and in respect of what articles, or class or description of articles a protective duty should be imposed;

(ii) What additional or alternative measures should be taken to protect or assist the industry; and

(iii) for what period, not exceeding three years, the tariff or other measures recommended should remain in force."

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In making its recommendations, the Board has to give due weight to the interest of the consumer in the light of prevailing conditions and also to consider how the recommendations affect industries using the articles in respect of which protection is to be granted.

Scope of the present inquiry

3. In consultation with the All India Glass Manufacturers' Federation and the Directorate General of Industries and Supplies, we decided to confine the scope of the present inquiry to the

following items of glass and glassware which are produced in the country in sufficient quantities:-

(i) Sheet glass between 16 oz. and 32 oz. guage;
(ii) Bottleware, tableware, lampware, and pressed-ware; and
(iii) Bangles.

The items which do not fall within the scope of the present inquiry are scientific glassware, electric lamp shells, and sheet glass below 16 oz. and above 32 oz. guage. The production in the country of scientific glassware of the requisite standard is negligible. As regards electric lamp shells, their production is closely connected with the manufacture of electric lamps in which the shell forms an intermediate product. The manufacture of electric lamps is carried on in the country by a number of firms from indigenous as well as imported lamp shells. The cost of production of lamp shells constitutes only a small proportion of the total cost of manufacture of electric lamps. Consequently, we have excluded electric lamp shells also from the purview of the present inquiry. Lastly, the indigenous production of sheet glass below 16 oz. and above 32 oz. gauge is negligible; we, therefore, decided to exclude sheet glass below 16 oz. and above 32 oz. guage from the scope of the inquiry.

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Method of inquiry.

4. (a) On 30th March, 1949, the Board issued a press communique, inviting producers, importers, consumers and others interested in this inquiry, who desired their views to be considered by the Board, to submit their representations. Detailed questionnaires were also simultaneously issued to producers, importers and consumers. The Directors of Industries of the Provincial Governments, Chambers of Commerce and Trade Associations were also requested to communicate their views to the Board on the question of grant of protection to the industry. A list of those to whom questionnaires were issued and those who submitted replies or memoranda will be found in Appendix II.

(b) A statement showing the dates of visit to the factories by the President, Members, Secretary and other Officers of the Board, is given in Appendix III. Mr. B.S. Narula, a Superintendent in the Board's Office, visited the factories in Firozabad, U.P. in the third week of May, 1949, for studying first hand the problems of the bangles industry.

(c) A public inquiry was held in Bombay on 23rd, 24th and 25th August, 1949. On 29th August, 1949, the Board discussed with representatives of the Bengal Glass Manufacturers' Association, who could not attend the public inquiry, various questions affecting the industry. A list of persons who attended the inquiries and gave oral evidence before the Board will be found in Appendix IV.

History of the industry.

5. The history and development of the glass industry in India has been dealt with at some length in paragraphs 1 to 4 of the Report of the Tariff Board of 1931. The indigenous glass industry cannot be called a nascent industry, although certain branches of the industry are still in an early stage of development. The art of glass-making has been known in India for ages and at least in one branch *viz.*, bangle-making, it has been practised for several generations by the Shishgars of Firozabad, one of the artisan classes of the country. Bangle-making has considerably expanded during the last war mainly on account of the cessation of imports from Japan and Czechoslovakia. The first attempt to manufacture other types of glass-ware dates back to the year 1892 when a bottle-making factory was started at Jhelum by the Muree Brewery with the help of a German expert. This factory was, however, closed down on account of its high costs of production. The first glass factory under Indian management was started at Titaghur under the name of Pioneer Glass Works with the help of an Austrian expert. This factory, too, had to close down after about 10 years due to lack of technicians. Several other attempts were also made after this failure.

Some of the factories that were then established, struggled hard and managed to survive. During the first World War, the industry received impetus and the number of factories increased from 3 in 1914 to 14 in 1918. The end of the War saw the tide turning again and with the revival of foreign competition, the industry began to languish. Nevertheless, by this time, the industry had taken a firm root in the Indian soil and had come to stay despite foreign competition and had made considerable strides during the interwar years, although at a much slower rate than before. In 1927, the industry approached the Government of India for protection against competition from imported glass and glassware. In 1931, Government referred to the Tariff Board for investigation the claim of the industry for protection or assistance. Although the Board recommended protection to the industry, Government rejected the Board's recommendation on the ground that one of the main raw materials *viz.*, soda ash was not available in the country. The outbreak of World War II, which considerably reduced the imports of glass and glassware, gave a strong fillip to the industry and the industry developed on fairly systematic lines and articles of better quality were produced. Some factories installed automatic and semi-automatic machines for the manufacture of sheet glass and bottles and also put up improved types of furnaces. The number of factories increased from 80 to 174 and production from 6 million sq. ft. of sheet glass and 43,000 tons of other glassware in 1939 to 13 million sq. ft. and 1,10,000 tons, respectively in 1945. At present there are in the Indian Union 224 glass factories including 93 manufacturers of bangles and beads and false pearls. The industry embraces diverse types of manufacturing organization, varying from small work-shops on a cottage industry basis to large-scale units controlled by proprietory and managing agency systems. The present distribution of glass factories in the country is as under:-

	NUMBER OF FACTORIES ENGAGED IN THE PRODUCTION OF		
	Glass and glassware	Bangles, beads and pearls	Total number of factories
United Provinces	24	90	114
West Bengal	34	-	34
Bihar	8	-	8
Orissa	1	-	1
Central Provinces	6	-	6
Bombay	32	-	32
Madras	4	3	7
Delhi	3	-	3
East Punjab	7	-	7
States	12	-	12
	131	93	224

It will be seen from the above table that the bangle making sections is concentrated in the United Provinces. The majority of the glass factories, other than those engaged in the manufacture of bangles, produce either containers or lampware or both. There are at present about 20 to 30 factories manufacturing tableware in addition to containers. Three factories produce sheet glass, while about 9 factories produce scientific glassware.

Raw materials fuels and refractories.

6. (A) The raw materials required in the manufacture of glass may be classified under the following two broad categories:

(a) substances of an acid nature, like silica (or sand) and boric acid, and

(b) substances of an alkaline or basic nature such as soda, potash, lime, dolomite, barium oxide, etc.

The more commonly used raw materials are:-

(i) Sand;
(ii) borax;
(iii) soda ash and salt cake;
(iv) dolomite;
(v) lime or limestone;
(vi) salt petre; and
(vii) sulphur, manganese dioxide and colouring materials.

(i) *SAND:* Silica is obtained from deposits of sand, quartz or quartzite rock. Various surveys have been made in order to locate deposits of silica which has been found in almost all the provinces in India. The quality of all these deposits is, however, not uniformly suitable for use in the glass industry and the sources available at present are thus restricted. Nearly all the glass factories of North India and Bengal obtain their requirements of sand from the Allahabad district where it occurs in the neighbourhood of Bargarh, Lohagarh and Shankargarh. Some of the manufacturers have taken steps to find out alternative sources of sand nearer their factories in order to improve the quality of their product or to reduce the freight charges. The deposits of sand in Travancore have been utilised by the local manufacturers and the quartz deposits in Mysore and Hyderabad have also been utilisedby manufacturers in that area. As mentioned above, the quality of sand available is not satisfactory for the glass industry. The main impurities consist of clayey matter, oxides of iron and other metallic impurities. These can be removed by screening, washing, or by chemical treatment or by electro-magnetic separation. The grading of sand is necessary for securing uniformity in the finished product. Subsequent to the last Tariff Board's inquiry in 1932, little progress has been made by the glass manufacturers in the installation of grading and washing equipment. It is, however, desirable to have a central washing and grading plant at the sand deposits so as to supply the various glass producers with sand of required specifications. The deposits in U.P. are found in small and scattered batches in the sand belts, unlike other countries where there are larger deposits of sand which make it possible to set up permanent plants for washing and grading. The possibility of treating sand on the site of the factory itself was discussed at the inquiry when it was agreed that a factory producing about 10 tons of glass a day could install a washing plant. We suggest that manufacturers should install machinery for washing and grading of sand so as to improve the colour and uniformity of their product. The Geological Survey of India and the Council of Scientific and Industrial Research have carried out some valuable work on the deposits of sand in India. But there is considerable scope for a detailed investigation in different parts of the country of sand deposits, both on surface and underground; and it is possible that deposits of sand of high quality may be discovered in view of the wide distribution of pure sand.

(ii) *BORAX:* This is used as an acidic oxide mainly by the manufacturers of high quality glass specially used for scientific purposes. Borax is not available in the country and is imported from the U.K. and the U.S.A. Since 1946, however, most of the imports have been obtained from the U.S.A. Borax used to be also imported from Tibet which was the nearest source of supply. But this supply was not sufficient for the requirements of the industry and would be much less so, because of the expansion of the glass industry and the uncertain political conditions of that region. The high cost of mining in Tibet as well as difficulties of transporting such borax from there to India make it impossible for it to compete with the imported material.

(iii) *SODA ASH AND SALT CAKE:* The most important basic oxide used in the glass industry is soda ash or sodium carbonate. Salt cake (sodium sulphate) which is the by-product obtained in the production of hydrochloric and nitric acids is sometimes used as a substitute for a part of the soda ash requirements. Deposits of natural sodium sulphate occur in Berar and Rajputana which, however, have not been exploited on a commercial scale for the glass industry. The use of salt cake is restricted to large tank furnaces since smaller establishments cannot use large proportions of it as it requires a higher temperature for melting. The indigenous glass industry requires about 30,000 tons of soda ash per annum. At present, the requirements of soda ash are met partly from Indian soda ash factories and partly from imports which are mainly obtained from the U.K. and East Africa, the latter being Magadi soda ash of natural origin. At the time of the last Tariff Board inquiry into the case of the glassware industry, there was no indigenous production of soda ash. Since then, its production was undertaken and has reached appreciable amounts, *viz.*, 21,689 tons in 1947. The installed capacity in the country is of the order of 47,000 tons of soda ash per annum against the total demand of the country of nearly 90,000 tons per annum. In view of the fact that the soda ash industry is now established in the country, the question of utilisation of indigenous soda ash was discussed at length at the public inquiry. It was recognised that the utilization of the indigenous soda ash by the glass industry would serve the dual purpose of making the country self-sufficient in respect of one of the main raw materials required for glass manufacture as well as in helping the development of a basic chemical industry like soda ash in the country. The consensus of opinion of the glass manufacturers at the inquiry, therefore, was that they should try and utilise indigenous soda ash. In this connection, the question of the quality of soda ash in respect of its density was also discussed. The indigenous soda ash is only of the light variety while the glass manufacturers stated that the heavier variety would be more suitable for their requirements. The utilisation of light ash by the glass and silicate industries is technically practicable if certain structural alterations in the furnaces and equipment are made. Apart from technical considerations, one of the main reasons for the use of heavy ash in the Indian glass industry has been the fact that the Magadi ash from East Africa, which is natural and heavy, has been imported in the country at a cheaper rate than either the synthetic heavy ash or light ash. We suggest that both the soda ash industry and the glass industry should cooperate so as to make possible the use of the indigenous light ash by the glass industry while simultaneously developing the production of heavy ash by the soda ash manufacturers.

(iv) *DOLOMITE:* This is generally used by sheet glass manufacturers and is locally available.

(v) *LIME (OR LIME-STONE):* Sufficient quantities of lime or lim-stone are available within the country. The quality of the material is also satisfactory for glass manufacture. Manufacturers in North India and Bengal obtain most of their lime-stone requirements from Bihar, while those in South India utilise lime-stone available locally or make use of shell-lime.

(vi) *SALT PETRE:* This is mostly used as an oxidising agent in the manufacture of white glass and the supplies are available locally, the main source being Bihar.

(vii) *SULPHŪR, MANGANESE DIOXIDE AND COLOURING MATERIALS:* These are required in small quantities, in the manufacture of coloured glass. Sulphur as well as most of the colouring materials are imported from abroad.

(B) FUEL: Coal is the most common fuel used by the manufacturers of glass in India. Supplies are obtained from the coal fields of Bengal and Bihar. Fuel oil is more suitable for the glass industry since its calorific value is higher than that of coal, and the combustion is easier to control. Some of the manufacturers specially at port towns have used imported fuel oil with advantage in their glass furnaces. Use of oil, however, has the disadvantage that there is no indigenous supply and it has to be imported.

(C) REFRACTORIES: The bulk of refractories used in the glass industry is obtained from indigenous sources. The manufacturers, however, complained of difficulties in obtaining suitable quality of refractories for their requirements. The demand for refractories by the glass industry is estimated at about 10,000 tons per annum. As a result of the discussion we had on this subject during the public inquiry we have come to the conclusion that it would be possible for the indigenous refractory industry to meet the requirements of the glass manufacturers. The installed capacity of the refractory industry in India is 2,05,000 tons per annum and the actual production has been 1,05,000 tons in 1947 and 1,06,000 tons in 1948, the bulk of it being utilised by the iron and steel industry. The glass industry should be enabled to utilise, as far as possible, indigenous raw materials including refractories and we, therefore, recommend that the D.G.I. & S. in its Development Committees on glassware and refractory industries should consider the possibility of meeting the full requirements of the glass industry in respect of refractories from indigenous sources in accordance with specifications prescribed by the glass industry.

SECTION II - SHEET GLASS

Process of manufacture.

7. All the three manufacturers of sheet glass *viz*, the Sodepore Glass Works, the Seraikella Glass Works and the U.P. Glass Works, follow the Fourcault process. The glass is melted in a regenerative tank furnace heated by producer gas. The gas producers are manually charged and not automatic as in highly developed glass factories. Glass melts at a temperature of 1400° C. and the molten glass flows into the drawing chamber from where a strip of glass is mechanically

drawn. It then passes through compressed asbestos rollers at a slow speed where the glass gets annealed. When it comes out of this row of rollers, it is cut into the required sizes. Glass sheets of different thickness are drawn by regulating the speed of the machine and the temperature of the melt which have to be accurately controlled in order to maintain uniformity of the sheet glass.

Domestic demand.

8. The D.G.I. & S. have estimated the domestic demand for sheet glass at 39 million sq. ft. per annum. The All India Glass Manufacturers' Federation has put it at 31.4 million sq. ft. H. Manory and Co., a firm of importers, have stated that the demand in the country could be taken to be about 28 million sq. ft., while one of the producers, the Seraikella Glass Works, has stated that the demand cannot exceed 25 million sq.ft. These estimates were discussed by us during the public inquiry. In order to assess the domestic demand for sheet glass, we have taken into account the following factors: (i) the estimated consumption during 1938-39; (ii) the partition of the country; (iii) the pace of industrial development and increase in building operations. On this basis, we consider that for the next three years the consumption of sheet glass might be put at 32 million sq. ft. per annum. This estimate includes the demand for different gauges of sheet glass.

Indigenous production.

9. There are at present three factories in the country which produce sheet glass, *viz.*, (i) the Sodepore Glass Works, (ii) the Seraikella Glass works; and (iii) the U.P. Glass Works. In the memorandum furnished by the D.G.I & S., the rated capacity of the three sheet glass units was estimated to be 20 million sq. ft. per annum which was the figure adopted by the Panel on the Glass Industry in 1945. On the other hand, the information supplied by the industry shows that its total capacity is of the order of 25 million sq. ft. During the public inquiry, the Development Officer of the D.G.I. & S.

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modified his original estimate by stating that the peak production attained by the industry even when it had the entire home market at its disposal was only about 13 million sq. ft. After making an allowance of 2 million sq. ft. for expansion in the productive capacity of the industry since the end of the last war, he was of the opinion that the rated capacity of the industry could not be more than 15 million sq. ft. per annum. Dr. A. Nadel, Glass Technologist to the U.P. Government, supported this revised estimate. The representatives of the industry,on the other hand, argued that, but for transport difficulties and certain handicaps in the supply of raw materials like soda ash and coal, the production of the industry would have been of the order of 26 million sq. ft. per annum and would not, in any event, have been lower than 20 million sq. ft. After careful consideration of all these points of view, we are of the opinion that the estimate of 15 million sq. ft. of sheet glass per annum can be taken to represent the rated capacity of the existing three units. We have been informed that two additional units are likely to be established shortly and that they would be in production in the course of the next two years. But we cannot take into account their future output for our purpose. So far as actual production is concerned, the three units together produced about 6 million sq. ft. per annum during the pre-war period. A maximum production of 13 million sq. ft. was reached in 1944-45. Thereafter, production has been on the decline until it went down to 6.3 million sq. ft. in 1948. This steep fall was attributed by the manufacturers to irregular and insufficient supplies of raw materials and certain consumable stores. The lowest production on record for several years was in the first half of 1949 when the industry produced only 1.75 million sq. ft. of sheet glass. We were informed that this production of 1.75 million sq. ft. was attained during the first three months of 1949, whereafter the factories stopped working owing to severe competition from imported glass and a fall in prices, resulting in accumulation of stocks with the manufacturers.

10. Consumers and importers, in their written evidence, have stated that the quality of indigenous sheet glass is not satisfactory and does not compare favourably with the imported sheet glass. They have pointed out that the glass breaks easily, has a dark greenish tinge, possesses an uneven surface, is not of uniform thickness, is crude in finish and is too wavy for silvering. The D.G.I. & S. have stated that, in purchasing sheet glass on behalf of Government Departments, steps are taken to see that such sheet glass conforms to specified standards by subjecting each piece to examination by their inspectors before being accepted. According to the D.G.I& S. nearly 60 per cent of sheet glass tendered by the manufacturers is rejected by the inspectors as not having conformed to specification and that such rejected material is probably offered for sale to the public. The consuming interests have complained that the manufacturers have not taken steps to improve the quality of their products, specially when they had the advantage of a closed market during the war and an unsatisfied demand to be met after the war. The representatives of the industry, while conceding that the quality of indigenous sheet glass has not come up to the level of the imported sheet glass, maintained that considerable improvement of quality has taken place since 1928-29. They contended that during the period when the industry developed due to a closed market, progress in respect of improvement in quality was not possible because of the difficulty of obtaining machinery and technical help from abroad. Besides this, their main difficulty was to obtain the right type of raw materials. For instance, the composition of sand supplied to the factories varied from time to time. The Glass Technologist to the Government of U.P. expressed the opinion that one sheet glass unit in the industry has improved its quality since 1939. The evidence before us leads us to the conclusion that there is considerable scope for improvement in the quality of indigenous sheet glass.

Quality of indigenous sheet glass.

Imports.

11. (a) Appendix V gives the quantity and value of sheet and plate glass imported into the country during the periods 1936-37 to 1938-39 and 1946-47 to 1948-49. Statistics relating to imports of sheet glass alone are not available as sheet glass is not shown separately in the Accounts relating to the Sea-borne Trade and Navigation of India. We recommend that steps should be taken by the customs authorities to maintain separate tecords relating to imports of sheets glass.

(b) The bulk of imports of sheet glass has been from Belgium. During the period 1946-47 to 1948-49, imports worked out to an average of about Rs. 79 lakhs per annum, which is more than three times the pre-war value of imports, although the productive capacity of the indigenous industry has increased to twice as much as it was before the war. During 1948-49, imports of sheet and plate glass amounted to about Rs. 101 lakhs which is probably the highest figure on record. It is likely that this large volume of imports consisted mostly of cheaper varieties; for, while the value of imports increased only by about 4 per cent in 1948-49 as compared with 1947-48, the increase in terms of quantity was as much as 25 per cent. If allowance is made for the increase in prices which has occurred since 1938-39, the reduction in the volume of imports may be substantial; and since imports in 1948-49 related to the Indian Dominion only, it is apparent that there was an abnormal increase in imports during that year.

Import control.

12. The position with regard to issue of licences for imports of sheet glass since January, 1948, has been as follows:

(i) JANUARY TO JUNE, 1948: Licences for imports from all areas were to be issued subject to an overall monetary ceiling.

(ii) JULY TO DECEMBER, 1948: No licences were to be issued for imports from dollar area, while imports from

hard currency countries, sterling and soft currency countries as well as Switzerland were to be permitted subject to monetary ceiling.

(iii) JANUARY TO JUNE, 1949: No licences were to be granted for imports from dollar area. So far as hard currency countries were concerned, imports were to be licensed subject to monetary ceilings. Imports from sterling and soft currency countries were put on O.G.L. XI on *22nd February, 1949*.

(iv) JULY TO DECEMBER, 1949: No licences are to be issued for imports from any source.

Existing rate of customs duty.

13. Sheet glass falls under item No. 60 (6) of the Indian Customs Tariff (Thirtieth Issue). The standard rate of duty is 45 per cent. *ad valorem* and the preferential rate of duty on imports from Burma is 20 per cent. *ad valorem*.

C.i.f. prices and landed costs of sheet glass.

14. A statement showing c.i.f. prices, customs duty, clearing charges, landed costs and selling prices of imported sheet glass, furnished by the Collectors of Customs and leading importers, is given in Appendix VI. Information regarding c.i.f. prices relating to imports from Japan is not available as imports from Japan have been stopped due to shortage of dollar exchange from March, 1949. We have, therefore, taken the c.i.f. prices of Belgium glass which forms the bulk of imports at present. The lowest c.i.f. prices of recent consignments of 16 oz., 24 oz., and 32 oz., gauges are Rs. 18-12-6, Rs. 28-2-0 and Rs. 47-9-11, respectively, per 100 sq. ft., which we have adopted for the purpose of comparison with the estimated fair selling prices of the indigenous products shown in paragraph 17 below.

Method of costing.

15. Of the three sheet glass factories in the country, accounts of two factories, namely, the Sodepore Glass Works and the Seraikella Glass Works have been examined in detail by the Cost Accountant

attached to the Board. We give below brief particulars regarding the costing procedure adopted in each case.

(a) THE SERAIKELLA GLASS WORKS: This company manufactures only sheet glass. It does not maintain any cost accounts; but it has not been difficult to work out the cost of production of sheet glass because sheet glass is the only item of production. As the company was working intermittently during the first half of the year 1948/49, the cost of production has been worked out only in respect of the second half of the year ended March 1949. Conversion cost in respect of different sizes of sheet glass has been worked out on the basis of "average operating cost per furnace day" and distributing it over the estimated daily production of the size concerned. Raw materials and packing charges are included at actuals relating to each size.

(b) THE SODEPORE GLASS WORKS: This company manufactures sheet glass in addition to various types of pressed-ware; but it maintains no cost accounts from which cost of production of any selected item could be worked out on an accurate basis. From the company's financial books and other miscellaneous production data, the Cost Accountant made an estimate of the cost of production of sheet glass in respect of the year 1948. As in the case of the other company, this estimate also has been worked out on the basis of average operating cost per furnace day; but the segregation of the direct expenses relating to the sheet glass production and the allocation of common items of overhead expenditure, among the several departments presented serious difficulties.

Board's estimate of fair selling price of sheet glass.

16. As both the companies desired that the details of their costs should be kept confidential, the Board met the representatives of the two companies in camera and discussed with them the costs of production and the basis for estimating future costs. The Board then built up

the future fair selling price of sheet glass on the following basis:-

(a) Figures relating to the Seraikella Glass Works are taken as representative figures for the industry as a whole because costs in respect of this company could be worked out on a more satisfactory basis and the rated capacity and production of the Seraikella Glass Works are much higher than those of the other company.

(b) *Production:* Production has been taken at the firm's optimum capacity of 20 tons per day, although the factory is working at present only at 45 per cent of its capacity.

(c) *Block:* The company has installed a new set of Morgan Gas Producer which is expected to function by the beginning of 1950. The cost of this plant amounting to Rs. 1.52 lakhs has been included in our calculations.

(d) *Raw materials:* For the purpose of estimating the future cost of production, it is assumed that price of raw materials would be at the same level as in 1948-49. Price of soda ash has been taken exclusive of the rebate of duty.

(e) *Coal:* With the coming into operation of the new Gas Producer, the consumption of coal is expected to be reduced gradually from 3.75 to about 2.75 tons per ton of finished glass. As we have taken into account the block value of the Gas Producer for estimating the future fair selling price, we have allowed for coal at this reduced rate.

(f) *Labour:* The manufacturers have urged that labour cost would go up on account of the contemplated legislation in the Bihar Province. But we hold that any such increase is likely to be balanced by a reduction in costs due to higher production when the new Morgan Gas Producer plant comes into operation. Consequently, we have not allowed any increase under this head.

(g) *Repairs and maintenance:* The actual costs for the half year ended March 1949 include expenditure relating to lining of furnace. As this lining would last for a full year, we have effected a reduction of 25 per cent, under this item while estimating future costs.

(h) *Depreciation:* This has been allowed at income-tax rates on the written-down value of the block.

(i) *Interest on working capital:* Interest has been allowed at 4 per cent. on a working capital assumed as equivalent to three months' cost of production.

(j) *Return on block:* This is allowed at 10 per cent. on gross block at original values. On the above basis, the fair selling price per 100 sq. ft. works out to Rs. 28-7-11 for 16 oz. gauge, Rs. 37-13-4 for 24 oz. gauge and Rs. 64-3-3 for 32 oz. gauge.

Comparison of the landed cost ex-duty of imported sheet glass with the Board's estimate of the fair selling price of indigenous sheet glass.

17. The following table shows the comparison between the landed cost, ex-duty, and the fair selling price as estimated by the Board. For the purpose of comparison, we have taken the lowest c.i.f. prices of recent consignments of sheet glass imported into the country from Belgium (*vide* Appendix VI).

Size of sheet glass Unit of comparison	16 oz. 100 sq. ft.	24 oz. 100 sq. ft.	32 oz. 100 sq. ft.
1	2	3	4
	Rs.	Rs.	Rs.
A. Fair selling price	28.493	37.835	64.204
B. (i) C.i.f. Price	18.781	28.125	47.625
(ii) Customs duty	8.451	12.656	21.431
(iii) Clearing charges	1.125	1.500	1.500
(iv) Total landed cost	28.357	42.281	70.556
(v) Landed cost ex-duty	19.906	29.625	49.125
(vi) Difference between fair selling price and landed cost ex-duty [A-B(v)]	8.587	8.210	15.079
(vii) Difference as a percentage on c.i.f.	45.7	29.2	31.7
(viii) Existing duty	45%	45%	45%

1	2	3	4
(ix) Difference between (vii) and (viii).	0.7	(-)15.8	(-)13.3
C. Estimated production	80%	12½%	7½%
D. Weighted average duty	(16 oz. 36.56) (24 oz. 3.65) (32 oz. 2.38)	42.59	say 43% as against the existing duty of 45%.

Measure of protection.

18. The statement in the preceding paragraph shows that the existing revenue duty of 45 per cent. *ad valorem* affords sufficient protection to sheet glass of 24 oz. and 32 oz. gauge. Although the bulk of the production during the past two years has been of 16 oz. gauge, for the purpose of comparison made in the preceding paragraph, we have adopted the weighted average rate of duty required in respect of the three gauges, which works out to 43 per cent. as against the existing duty of 45 per cent. But the indigenous sheet glass industry suffers, to some extent, from prejudice on the part of consumers. While this prejudice is partly due to a demonstrable difference in the quality of the indigenous product, such prejudice is also due to a certain amount of conservatism on the part of users. Moreover, in view of the variety of uses to which sheet glass is being put, particularly in building operations, an increase in production and improvement in the quality can be brought about by an assurance of protection to the indigenous sheet glass industry. While, therefore, an increase in the existing duty is not justified on the basis of the comparison made in the preceding paragraph, we recommend that the existing revenue duty of 45 per cent. *ad valorem* on sheet glass of all gauges should be converted into an equivalent protective duty and should remain in force for a period of two years in the first instance, *i.e.*, upto 31st March, 1952. Although the production of sheet glass is at present restricted to between 16 and 32 gauges, we recommend that the protective

duty of 45 per cent. should be made applicable to all gauges as this duty is only a conversion of the existing revenue duty and will not involve any extra burden on users of sheet glass of gauges below 16 oz. and above 32 oz. Besides, in order to avoid possible administrative difficulties in the matter of assessment, it would be preferable to have a single rate of duty on sheet glass of all gauges.

Proposed changes in the Customs Tariff Schedule.

19. If our recommendation to protect the industry is accepted, the First Schedule to the Indian Customs Tariff (Thirtieth Issue) should be amended as follows:-

Existing Tariff Item No.	Name of article	Nature of duty	Existing rate of duty	Proposed tariff Item No.	Name of article	Nature of duty	Proposed rate of duty	Duration of protective rates of duty
60(6)	Sheet and plate glass.	Revenue	45% ad valorem	60(6)	Sheet Glass.	Protective.	45% ad valorem	March 31st, 1952.
				60(7)	Plate Glass.	Revenue	Do.	..

Other assistance asked for by the industry.

20. Apart from its claim for protection, the industry has asked for the following assistance:

(a) *RESTRICTION OF IMPORTS:* In paragraph 12 above, we have explained the position in respect of the present import control policy in respect of sheet glass. We consider that imports of foreign sheet glass into the country are necessary to provide the incentive for efficiency of Indian manufacturer and improvement in quality of indigenous product. The protection we have recommended should, in our opinion, adequately safeguard the industry and restriction on imports of sheet glass is not necessary, except in so far as it may be found necessary for balance of payments considerations.

(b) *CONCESSIONAL FREIGHT RATES FOR TRANSPORT OF SODA ASH :* We were informed by representatives of the industry that it was allowed special concessional rates by the Railway Board for the transport of soda ash required for the manufacture of glass and that this concession was recently withdrawn by Government. We understand from the D.G.I. & S. that this withdrawal of the concession was in pursuance of the general policy of the railway authorities in respect of all concessional rates. Since we are not aware of the reasons that led Government to the cancellation of the concession, we suggest that the industry should make specific proposals in the matter to the Railway Board for consideration.

(c) *CONTINUANCE OF REFUND OF DUTY ON IMPORTED SODA ASH:* In paragraph 11 (b) of our Report on the Soda Ash industry, we have explained the present position in regard to the rebate of customs duty on soda ash enjoyed by the indigenous glass industry. Briefly, refund of duty on imported soda ash actually utilised in the manufacture of glass and glassware was granted by the Government of India, in the late Department of Commerce Resolution No. 458-T(14) dated 22nd June, 1935, on the previous Tariff Board's Report on the Glass Industry. Although the terms of this concession have been modified from time to time, the concession still continues. A careful examination of the cost data relating to the four factories costed discloses that the incidence of the rebate of duty on the total cost of production is negligible. Moreover, on the basis of the comparison of the landed costs, without duty, of imported sheet glass, and the fair selling prices of indigenous sheet glass as mentioned in paragraphs 17 and 30, the indigenous industry has an ample margin in its favour and the withdrawal of the concession will not result in any disadvantage to the industry. At the public inquiry the representatives of the glass industry recognized that it would be in their own ultimate interest to develop the indigenous soda ash industry so as to make the country independent of imports of an important raw material; and they agreed that the glass industry was prepared to forego the existing concession of rebate of customs duty on soda ash. The existence of the concession of duty on imported soda ash will not offer inducement to the glass manufacturers to use indigenous light soda ash not to the manufacturers of soda ash to produce the variety of ash required by the glass industry, thereby impeding the development of the soda ash industry in the country. We, therefore, recommend that the existing concession of rebate of customs duty on imported soda ash used in the manufacture of glass and glassware should be withdrawn.

(d) ***REFUND OF DUTY ON IMPORTED FURNACE OIL, BORAX AND REFRACTORIES:*** Since in our estimate of the fair selling price, we have taken into account the actual prices at which these consumable stores were made available to the industry, the question of refund of duty does not arise.

SECTION III – BLOWNWARE AND PRESSEDWARE

Process of manufacture.

21. Raw materials for the glass-batch are mixed in proper proportions and melted in a pot or tank furnace. The furnace may be the direct fired type, using coal as fuel or the recuperative type using gaseous fuel produced from coal or oil. The melted glass is drawn out from the furnace and blownware is produced manually or mechanically. The majority of factories in India produce blownware by semi-automatic or mouth-blowing process. In recent years, a few completely automatic machines have been installed for the manufacture of bottles. In the mouth-blowing process a lump of melted glass is taken up on an iron tube, manipulated to cool uniformly and the required article blown into shape with the help of a mould. In the semi-automatic process, mouth-blowing is replaced by compressed air. In the completely automatic blowing machines, lumps of melted glass are automatically removed from the furnace by means of a discharge mechanism and fed into moulds which are set upon a horizontal revolving table. As the table revolves, the mouth of the bottle is formed and the glass is partially blown. At this stage, the glass is transferred automatically to moulds on another revolving table where the blowing is completed and the bottle is removed for annealing. These automatic machines produce bottles at the rate of about 35 per minute. Pressedware like tiles, tumblers and dishes are manufactured by gathering glass from the furnace and placing it in moulds where the

article is produced by the pressure of plungers. The article is removed from the mould to the annealing section. Annealing can be done manually or in automatic machines. In the old type of annealing kiln, which is still common in the Indian factories, the glassware is manually handled to the heated kiln where it is allowed to cool gradually. In the automatic annealing "lehrs", the articles are conveyed through a tunnel which is maintained at temperatures gradually falling from the feed-end to the discharge-end so as to allow controlled cooling.

Domestic demand.

22. The **Panel** on the Glass Industry estimated the pre-war consumption of blownware and pressedware at 101,200 tons and fixed the target for future consumption for undivided India, during the period 1945-50, at 129,700 tons per annum. The estimates furnished to us by various parties vary widely; and these various estimates of demand for the three important categories of blownware and pressedware, *viz.*, (a) bottles and phials, (b) lampware and (c) tableware and pressedware, were discussed at the public inquiry. We deal with them separately below:

(a) *BOTTLES AND PHIALS*: The Panel estimated the pre-war consumption of bottles and phials at 80,000 tons and suggested a target of one lakh tons per year during the period 1945-50. In the memorandum received from the D.G.I. & S., the domestic demand was estimated at 80,000 tons per annum after making allowance of 20 per cent. on the Panel's target figure for estimated consumption by Pakistan. The representatives of the various consuming interests, such as manufacturers of pharmaceuticals, perfumery, cosmetics, preserved fruits, aerated waters, etc., present at the inquiry, gave a rough indication of the requirements of their respective industries. But as these estimates were expressed in grosses and as the weight of bottles was a variable factor, depending upon their size, we could not formulate any conclusions regarding the quantum of demand on the basis of an average weight per bottle. We, however, utilised these estimates of consuming industries for assessing, as accurately as possible, the future trend of consumption and came to the conclusion that the demand for bottles and phials would be 1 lakh tons during 1950, 1½ lakh tons during 1951 and 2 lakh tons during 1952.

(b) ***LAMPWARE:*** The Panel fixed the target of consumption at 14,000 tons per annum for the period 1945-50. In their memorandum submitted to the Board the D.G.I. & S. stated that the target set by the Panel may be accepted as indicating the country's demand at present. Subsequently, however, during the course of the public inquiry, the Development Officer of the D.G.I. & S. revised his former estimate to 10,000 tons per annum, stating that the Development Committee of the D.G.I. & S. which discussed the question, was of the opinion that, in the existing circumstances, the demand could be estimated at about 10,000 tons. Some of the producers argued that due to shortage of kerosene oil, the demand for lampware had considerably gone down and should, therefore, be estimated at 10,000 tons per annum for the present and during the next three years, while others contended that the demand would be still lower. The importers, on the other hand, stated that inspite of kerosene shortage in the country, the demand was on the increase and that although the intake of the imported lampware was four times as much as that of the indigenous lampware, a major portion of the demand for such lampware was not being met. The producers pointed out that if, in fact, there was such unsatisfied demand in the country as contended by the importers, there was no reason why their stocks of lampware should have remained unsold, thereby compelling them to limit the production of this item to about 50 per cent. of the industry's capacity. Further, as the production of lampware was more remunerative than that of any other glassware, the industry would have undoubtedly produced lampware upto its optimum capacity. It has also been argued that, while the demand for kerosene lampware had decreased, the demand for electric lampware had gone up. The demand for smaller sizes of lampware, particularly for the bedroom lamp globes, has increased to such an extent that the industry is not at present in a position to meet the orders placed on it. Taking all these factors into account, it was agreed that the requirement of the country for lampware of all sizes could be estimated at about 10,000 tons per annum during the period 1950-52.

(c) *TABLEWARE AND PRESSEDWARE:* The D.G.I. & S. had previously estimated the domestic demand at 11, 500 tons per annum, made up of 7,500 tons for tableware and 4,000 tons for pressedware, which were also the consumption targets fixed by the Panel for undivided India for the period 1945-50. Subsequently, during the public inquiry, the representative of the D.G.I. & S. modified the previous estimate by reducing it to 9,500 tons, since the Development Committee of the D.G.I. & S. was of the opinion that the former estimate of 4,000 tons for pressedware was on the high side and that it should now be put at about 2,000 tons. All the interests present at the inquiry suggested that the future trend of consumption for these items could be estimated at 10,000 tons per annum. We agree with this estimate.

Indigenous production.

23. (a) *CAPACITY:* The total annual capacity of the indigenous industry for blownware and pressedware was estimated by the Panel on the Glass Industry to be about 1,17,000 tons. The D.G.I. & S. have informed us that, although the country has been partitioned, the capacity of the industry has remained practically unaltered owing to the fact that there are few factories in territories which now constitute Pakistan. In the memorandum received from the All India Glass Manufacturers' Federation, the present capacity has been estimated at 1,35,120 tons per annum. The estimate of the D.G.I. & S., however, was not acceptable to the industry on the ground that it does not include the expansion which has taken place since 1945. At the public

inquiry we discussed this question in respect of (i) bottles and phials, (ii) lampware, (iii) tableware and (iv) pressed-ware.

(i) *BOTTLES AND PHIALS:* The D.G.I. & S. estimated the production capacity for bottles and phials at 1 lakh tons per annum. On the other hand, the industry has argued that, with the installation of some automatic machines, its capacity has considerably expanded and that its present capacity could not be less than 1,25,000 tons per annum. Some of the manufacturers present at the inquiry placed before the Board their estimate of the capacity of the machines installed by them since 1945, as well as of those which were in course of installation and suggested that the Board should take into account the capacity resulting from the operation of these machines in determining the present and future capacities of the industry. We have also examined the new development plans of the various units, and after taking all relevant factors into consideration, we have come to the conclusion that the capacity of the industry in respect of manufacture of bottles and phials may be estimated at 1,25,000 tons during 1950, 1,50,000 tons during 1951 and 2 lakh tons during 1952.

(ii) *LAMPWARE:* The present capacity for lampware has been estimated by the D.G.I.& S. at 10,000 tons per annum. The industry argued that as its capacity in this section was very elastic, the capacity should be related to the estimated demand of the country, and that, since the demand was estimated at 10,000 tons per annum during the next three years, the capacity of the industry should also be taken at the same level. We agreed with this view, and we accept the figure of 10,000 tons as the estimated capacity for manufacture of lampware during the next three years.

(iii) *TABLEWARE INCLUDING TUMBLERS:* The D.G.I. & S.'s estimate of the industry's productive capacity in respect of tableware including pressedware is 7,000 tons per annum, while according to the industry the capacity to produce tableware having increased during the past year or two, it should be taken to be not less than 10,000 tons at present. As a result of our discussion, we estimate that the capacity under this head is about 9,000 tons per annum for the next three years.

(iv) ***PRESSEDWARE:*** According to the D.G.I. & S. the rated capacity of the industry for this type of article is 4,000 tons per annum. The Seraikella Glass Works, however, stated that when its newly purchased automatic machine goes into production, it alone would be able to produce a minimum of 3,000 tons per annum. We have taken into account the capacities of other units and have come to the conclusion that the capacity of the industry would be about 4,000 tons per annum during the next two or three years. We have, therefore, estimated the indigenous capacity for pressedware at 4,000 tons per annum for the period 1950-52.

(b) ***PRODUCTION:*** As regards production, we were informed by the D.G.I. & S. that the industry produced 1,10,000 tons during 1945 and that its production in 1948 was approximately 70,000 tons, nearly 60 per cent. of which constituted bottleware. The details of production under the different categories are not available. The D.G.I. & S., however, furnished to us figures of production in terms of gross for 1948 and for the first six months of 1949; these figures are given below:-

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(i) *Bottles and phials:*	
Production in 1948	1,324,530 gross.
Production during January to June 1949	593,920 gross.
(ii) *Lampware:*	
Production in 1948	399,319 gross.
Production during January to June 1949	134,319 gross.
(iii) *Tableware including tumblers:*	
Production in 1948	212,338 gross.
Production during January to June 1949	85,478 gross.

The above figures were discussed at the public inquiry and were accepted by the producers. The figures of production for the period January to June, 1949, do not include part of the production for May and/or June, 1949, as the returns from the manufacturers have not been received by the D.G.I. & S. upto the time of compilation. We have, however, been informed that they may be taken to be fairly reasonable estimate of the industry's production during the first half of 1949. Although the details of production are not available for the past few years, we were informed that the production of the industry has been steadily declining since 1945. The falling off in production is due to the excessive imports during the last two years, insufficient supplies of raw materials of the requisite quality and inadequate transport facilities for the movement of both raw materials and finished products.

Quality.

24. Consumers and importers, in their written evidence, have stated that the quality of indigenous glassware is not satisfactory and does not compare favourably with the imported product. The chief defects were stated to be lack of uniformity in size and shape and a high percentage of breakage. These defects were particularly emphasised at the public inquiry by representatives of the pharmaceutical, cosmetic, and preserved fruits industries. In the cosmetic and pharmaceutical industries, apart from uniformity of size and thickness, the outward appearance of the glass containers was an important factor, specially when these industries have to compete with foreign products packed in neat and attractive containers. It was urged on behalf of the preserved fruits industry that indigenous glass industry is not able to supply the special type of open-mouthed jars required for packing pickles and chutneys. Similarly, the aerated water manufacturers required bottles which would withstand the necessary pressure at the time of filling the bottles. Complaints about the unsatisfactory quality of jars and tumblers were also made. Most of the defects pointed out by consumers were, in their opinion, attributable

to the fact that the articles in question were manufactured either on semi-automatic machines or by the mouth-blowing process. They maintained that these defects could be removed if the containers were manufactured on fully automatic machines. On behalf of the indigenous glass industry it was urged that, while there was still room for improvement, the quality of indigenous glassware had improved considerably during the last ten years. The representatives of the industry stated that most of the factories have ordered new machinery, some of which is fully automatic; and that, when the new plants begin to work, the existing defects would be eliminated. We must, however, point out that the indigenous demand for blown-ware and pressed-ware is not at present so large as to justify the introduction of fully automatic machines on any large scale. Improvement in the quality of the finished product can, therefore, be achieved by the use of raw materials of good quality, standardisation of the moulds, and stricter control over operations. Considering the fact that during the war the industry had sustained production under serious handicaps, such as, shortages of coal, refractories and trained and technical personnel, we think that, when the plans for replacement and expansion of the existing plants materialise, the indigenous glass industry will be in a position to meet all the requirements of the country in respect of blown-ware and pressed-ware.

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25. A statement showing the quantity and value of **Imports.** different items of blown-ware and pressed-ware imported from various sources during the years 1936-37 to 1938-39 and 1946-47 to 1948-49 is given in Appendix VII. It will be seen that, while the imports of bottles and phials and lampware fell considerably during the post-war period, as compared with the pre-war period, there has been an appreciable increase in imports of tableware and "other glassware", particularly during 1947-48, when the imports of tableware amounted to Rs. 120.35 lakhs and "other glassware" to Rs. 88.31 lakhs. The bulk of the imports of

tableware and of "other glassware", came from dollar and hard currency areas.

Import control.

26. The position regarding issue of licences for imports of blownware and pressedware since January 1948 has been as follows:-

(i) *JANUARY TO JUNE 1948:* Licences were not to be issued for imports from any source.

(ii) *JULY TO DECEMBER 1948:* No licence was to be issued for imports of all items of blownware and pressedware except bottles and phials from any source. As regards bottles and phials, licence was to be issued for imports of medicinal phials only from dollar area subject to monetary ceilings. Imports from hard currency countries were not to be licensed while those from Sweden, Switzerland, sterling and soft currency countries were to be licensed subject to monetary ceilings.

(iii) *JANUARY TO JUNE 1949:* Licences were not to be issued for imports from dollar areas and hard currency countries. So far as sterling and soft currency countries were concerned, licences were to be issued subject to monetary ceilings for all items of blownware and pressedware except glass tumblers for which no licences were to be issued.

(iv) *JULY TO DECEMBER 1949:* No licence will be issued for imports from any source, subject to the proviso that imports of blownware and pressedware, other than glass globes and chimneys for lamps and lanterns, from sterling and soft currency countries will be licensed against O.G.L. XV concessions.

Existing rates of customs duty.

27. Glass and glassware items other than sheet and plate glass and bangles are covered in item Nos. 60 and 60(1) of the First Schedule to the Indian Customs Tariff (Thirtieth Issue). The relevant extract from this Schedule is given on next page.

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The United Kingdom.	A British Colony.	Burma	
60	Glass and Glassware not otherwise specified, and lacquered wares.	Revenue	37½ per cent. *ad valorem*.	—	—	Lacquered ware free; all others 10 per cent. *ad valorem*.	
60 (1)	Glass globes and chimneys for lamps and lanterns.						
	(a) Globe for hurricane lanterns.	Revenue	25 per cent. *ad valorem* or four annas and six pies per dozen, whichever is higher plus one-fifth of the total duty.	—	—	12 per cent. *ad valorem*.	
	(b) Other globes and chimneys having an external base diameter of over one inch.	Revenue	25 per cent. *ad valorem* or three annas per dozen, whichever is higher plus one-fifth of the total duty.	—	—	—	

C.i.f. prices and landed costs.

28. A statement showing the c.i.f. prices, customs duty, clearing charges, landed costs and selling prices of imported glassware, furnished by the Collectors of Customs and some of the leading importers will be found in Appendix VIII. It will be seen from the statement that the lowest c.i.f. prices relating to

recent consignments of glassware comparable to indigenous products are Rs. 33-4-0 per gross of 16 oz. bottles, Rs. 19-0-10 per gross of 10 oz. tumblers, Rs. 601-2-0 per gross of roof tiles and Rs. 55-2-0 per gross of lemon squeezers.

Board's estimate of cost of production and fair selling price of indigenous glassware.

29. (a) For the purpose of our estimates of the cost of production of blownware and pressedware, we have examined the accounts of (i) the New India Glass Works, Calcutta, and (ii) the Ogale Glass Works, Ogalewadi. The former does not maintain production records; and its financial accounts do not also provide the necessary data for the purpose of proper costing. The latter firm, however, maintains a fairly satisfactory system of accounts in respect of each producing department, including that of glassware; and we obtained the requisite data from the accounts relating to the year ended 31st December, 1948. The cost of production of blownware and pressedware consists of the following items: material cost; mixing and furnace cost; blowing and annealing cost; cutting, fusing, grinding, and finishing cost; and packing cost. To this cost of production are added interest on working capital at 4 per cent. per annum on three months' cost of production and a return at 10 per cent. per annum on the gross block, so as to arrive at the fair selling price of the finished product.

(b) On the basis of the cost of production at the Ogale Glass Works during the year ended 31st December, 1948, the Board has worked out estimates of future costs after taking into account the following factors:-

(i) Prices of raw materials have been taken at current rates.

(ii) Production at the factory has been assumed to be 75 per cent. of its rated capacity.

(iii) Consumption of coal has been taken at 2.75 tons per ton of glass.

(iv) A saving of 10 per cent. on labour cost has been assumed due to an increase in productive efficiency.

Comparison of landed costs without duty, of imported glassware and Board's estimate of fair selling prices of indigenous products.

30. The following statement shows the comparison between the fair selling prices as estimated by the Board and the lowest landed costs, without duty, of blownware and pressedware:

Details of wares:	Bottleware	Tableware	Pressedware	
Size of wares:	Bottles 16 oz.	Tumblers 10 oz.	Roof tiles.	Lemon squeezers small
	Rs.	Rs.	Rs.	Rs.
A. Fair Selling price	30.247	19.716	316.357	25.833
B. (i) C.I.F. price	33.250	19.050	601.125	55.128
(ii) Customs duty	12.468	7.144	225.422	20.673
(iii) Clearing charges	1.164	0.667	21.039	1.929
(iv) Landed cost with duty	46.882	26.861	847.586	77.730
(v) Landed cost ex-duty	34.414	19.717	622.164	57.057
(vi) Difference between fair selling price and landed cost ex-duty [A - B (v)]	-4.167	-0.001	-305.807	-31.22
(vii) Difference as a percentage on c.i.f. B.(i)	-12.53%	--	-50.87%	-56.64%
(viii) Existing duty	37.5%	37.5%	37.5%	37.5%
(ix) Difference between B (vii) and B (viii)	-50.03	-37.50	-88.37	-94.14

Protection or assistance asked for by the industry and Board's recommendations.

31. The industry has asked for restriction of imports in addition to any protective duty that might be imposed, on the ground that the excessive imports during the past few years have prejudicially affected its interests. It will be seen from the preceding paragraph that the estimated fair selling prices of the indigenous articles are considerably lower than the landed costs of the corresponding imported articles. Hence the need for protection does not arise. We must, however, point out that the indigenous industry is at a serious disadvantage in that it is lacking in technical personnel and up to date machinery, without which it is not in a position to improve the quality of its products and expand its production. We, therefore, recommend that all possible facilities should be afforded to the industry to secure the requisite technical personnel and such automatic or semi-automatic machinery as it desires to instal. We further recommend that licences for imports of blownware and pressed-ware should be issued only to the extent that the indigenous production falls below the actual requirements of the country. We cannot help observing that the wide fluctuations in imports during the last few years have adversely affected the industry. The average value of imports during the last three years has been about Rs. 50 lakhs as compared with only Rs.6 lakhs in 1938-39. In 1947-48 the imports were about Rs. 120 lakhs worth of tableware, of which imports to the value of about Rs. 100 lakhs were from hard currency sources. Imports in the preceding and the following years came to only Rs. 27 lakhs and Rs. 2 lakhs, respectively. Even after allowing for the pent-up demand during the war, an expenditure of Rs. 120 lakhs of foreign exchange on an article like tableware in a single year cannot but be regarded as excessive. We were given to understand that some of the factories were compelled to stop production of tableware for some time owing to these heavy imports. We, therefore, suggest that, before import restrictions are relaxed or removed, the possible repercussions

on the indigenous industry should be taken into account, particularly because of the tendency in this country to resort to speculative imports irrespective of the quantum of actual demand. While we hold that import controls, which are imposed for balance of payments considerations, should not be made the instrument of protection to indigenous industries, we would like to emphasize that sudden reversals of import policy would adversely affect indigenous industries, and particularly those which are protected.

Competition from Japan.

32. The manufacturers expressed serious concern at the possibility of severe competition from Japan, specially in respect of tableware. In support of this statement, they pointed out that during the period July to December, 1948, imports to the extent of Rs. 3,16,000 were licensed from that country. A representative of the Bombay Glassware Merchants' Association who had recently been on a business tour to Japan stated, however, that the last war had adversely affected the facilities which Japan enjoyed before the war and that the prices of all glassware had increased by more than 165 per cent. on an average, as compared to the pre-war prices. Moreover, as the existing level of prices was likely to register a further rise consequent upon the change in the exchange rates between the yen and the dollar and a very large increase in freight rates since before the war, he did not envisage serious competition from Japan. Besides, owing to our foreign exchange difficulties, we do not consider that imports from Japan will assume such proportions in the near future as to jeopardise the indigenous industry.

SECTION IV - BANGLES

Domestic demand.

33. There are three main types of bangles namely, Reshmi, Hollow and Fancy, which are manufactured in the country. Besides these three, there are other types which are produced exclusively on a

cottage industry basis. The Panel on Glass Industry estimated India's pre-war consumption of bangles at 15,000 tons per annum and expected that consumption during the course of the next five years would increase to 19,800 tons per annum. The D.G.I. & S., however, are of the opinion that, as a result of the partition of the country, the present demand for glass bangles may be taken to be about 15,000 tons per annum. During the public inquiry, the industry, while subscribing to the view that the home demand had considerably decreased owing to its having lost the Pakistan market, argued that there was a permanent demand for glass bangles because of the peculiar social customs obtaining in the country. In regard to demand for Indian-made bangles in Pakistan, it was stated by the manufacturers that, in view of the large consumption in those territories, a reduction of 20/25 per cent. should be made from the target fixed by the Panel in order to arrive at the quantum of demand for the Indian Union. It was further stated by them that changes in fashion as well as the advent of plastic bangles should also be given due weight in determining the quantum of demand for glass bangles in the country. Taking all the above factors into account, we consider that the demand for glass bangles during the next three years could be estimated at 12,000 tons per annum.

Domestic production.

34. The rated capacity of the industry was stated to be much in excess of the home demand. We were informed that there are at present 86 medium-sized factories, which come under the purview of the Factory Act, in Firozabad, U.P., besides several hundreds of workshops on a cottage industry basis in U.P., in Madras and in Poona. The total productive capacity of these units was estimated at 35,000 tons per annum of which 30,000 tons represent the capacity of the medium-sized factories and the balance of 5,000 tons, the capacity of the cottage workshops In regard to actual production, it was stated that it had been steadily declining owing to shortage of raw materials,

transport difficulties and the grouping of the 86 factories into 29 units as a means of rationalisation for the purpose of supply of raw materials, which was brought about in the first half of 1948. The production of these 86 factories, on the basis of their output in August, 1949, was estimated at about 15,000 tons per annum. Making an allowance of about 2,000 tons for the production of small workshops, we have estimated the production of bangles in 1949 at about 17,000 tons.

Quality.

35. Bangle-making has been practised for several generations by the *Shishgars* of Firozabad, one of the most skilled communities in the country. In fact, India has the largest bangle industry in the world which has expanded rapidly during the last twentyfive years and has provided a classic example of how a small unorganised, ill-equipped industry, although run by manual labour, can compete effectively with large-scale and well-established branches of the industry in other countries and successfully oust their products from the home market. We must, however, point out that the improvement effected in the quality of indigenous bangles has so far been the result of individual efforts of the *Shishgars* who, though highly skilled artisans are illiterate and, consequently, have not recognised the the value of research. Due to internal competition, the secrets of improved technique of manufacture are jealously guarded. Although, therefore, some of the bangles produced indicate a high degree of skill on the part of fabricators, further improvement in the technical efficiency so as to enable the indigenous bangles to come up to the standard of some of the specialised products of foreign countries can only be brought about by properly organised research for which necessary technical assistance should be rendered to the industry.

Imports.

36. Appendix IX gives the value of glass bangles imported into the country from various sources during the periods 1936-37 to 1938-39 and 1946-47 to 1948-49. The

figures in this Appendix show that, before the war, imports of bangles amounted to an average of Rs. 24 lakhs per annum, while during the post-war period they averaged Rs. 2 lakhs per annum, which was negligible when compared to the annual production worth nearly Rs. 3½ crores. Since 1947-48, imports have dwindled to such an extent that in the following year they amounted to Rs. 544 only. There has thus been no appreciable foreign competition during the post-war years.

Import control.

37. The position in respect of import control of glass bangles from different sources since January 1948 has been as under:

(i) *JANUARY 1948 TO JUNE 1949:* No licences were to be issued for imports from any source.

(ii) *JULY TO DECEMBER 1949:* Licences will be issued for imports only from Czechoslovakia in accordance with the Trade Agreement entered into by the Government of India with the Government of Czechoslovakia; no licence will, however, be issued for imports from other sources.

Existing rates of customs duty

38. Glass bangles are covered by Item 60 (3) of the Indian Customs Tariff (Thirtieth Issue). The standard rate of duty is 60 per cent. *ad valorem*, while the preferential rate in respect of imports from Burma is 20 per cent. *ad valorem*.

Question of protective duty on bangles.

39. Although, according to the terms of reference, we are required to investigate into the question of protection to the bangles section of the industry also, this section of the industry has not asked for protection. We did not, therefore, consider it necessary to make a detailed investigation into the cost of production of bangles. Nor is such an investigation feasible, because the bangle manufacturing units,

which are run on a cottage industry basis, do not maintain detailed and systematic accounts. Even if any rough estimate of the cost of production of bangles could be made on the basis of available data, such estimate could not be compared with the landed costs without duty of imported bangles, since c.i.f. prices of the latter are not also available. The request of the bangles section of the industry for the maintenance of the existing revenue duty of 60 per cent. *ad valorem* goes to show that this duty sufficiently safeguards the position of the industry. We do not, therefore, feel called upon to make any special recommendation in this respect.

Assistance asked for by the industry.

40. In addition to the request for continuance of the existing revenue duty, the industry has asked for the following assistance:-

(a) Facilities for export of indigenous bangles: Under this head, the industry has asked for (i) Government assistance in regaining the foreign markets which were to some extent lost owing to the war and (ii) concessional freight rates from the factory up to the port of shipment.

(i) We were informed by the industry that formerly it exported its products to Burma, Malaya, South Africa, Aden, Egypt and Sumatra but that owing to certain restrictions it has lost these markets. The capacity of the industry is three times as much as the demand in the country and it has, therefore, a surplus which it is in a position to export. If technical facilities as recommended in paragraph 41 below are extended to the industry, we consider that the industry can build up an export market. We, therefore, recommend that in their trade negotiations with the Governments of the abovementioned countries, the Government of India should negotiate for exports of indigenous bangles to those countries.

(ii) So far as concessional railway freight is concerned, the industry should make specific proposals to the Railway Board for their consideration.

(b) Reduction of the 60 per cent. duty levied by Pakistan on Indian bangles: As a result of the partition of the country, the industry has lost the Pakistan market to the extent of nearly one-third of the total consumption of the Indian Dominion. The industry has, therefore, requested that it should be enabled to recapture the market by making its products available there at a low price; for this purpose, the industry requested that the Government of India should negotiate with the Government of Pakistan for reduction in the import duty of 60 per cent levied by it on Indian bangles. We suggest that when trade relations are resumed and negotiations between the two countries take place, the question of securing concessional duties on bangles should be included in such negotiations.

(c) Adequate supplies of coal, kerosene and other materials: In view of the importance of maintaining and increasing production both for meeting the internal demand and for the export trade, we recommend that the Government of U.P. should make available to the bangle factories sufficient quantities of raw materials and consumable stores.

(d) Facilities for importation of liquid gold: The bangle merchants of Firozabad have represented that liquid gold which is used in decorating bangles is not available to them at a reasonable price and that though its landed cost at present comes to about Rs. 27 per oz., it is actually sold in the market at Rs. 60 per oz. They, therefore, requested that their Associations should be permitted to import liquid gold to meet the requirements of the industry. They further stated that supplies of this raw material from the U.K. fell short of actual requirements, due to export restrictions in that country. We have been informed that Czechoslovakia has offered to supply liquid gold to India in accordance with the Trade Agreement between the two countries, but that the quality of the liquid gold of this country is not found satisfactory by the industry. In any event, imports from

these two countries would not meet the requirements of the indigenous manufacturers. They, therefore, requested that the balance of their requirements should be allowed to be imported from Germany and/or U.S.A. In this connection, we were informed that during the first half of 1948, Government had issued licences to the Glass Bangle Merchants Chamber and the Bangles Merchants Association to import liquid gold against the requirements of merchants and to distribute such gold in consultation with the Glass Technologist to the Government of U.P. We have received many complaints about the actual distribution of the supplies through the Chamber and the Association. It has been alleged that liquid gold was not distributed equitably. It was distributed only amongst members of the associations irrespective of whether they were genuine consumers or not with the result that the non-member firms had to depend upon supplies from importers to keep their works in production. We are of the opinion that the main reason for such unsatisfactory distribution lies in the unorganised condition of the industry. Although the bangles industry has been in existence for the past several decades and is confined to Firozabad and its vicinity, no attempt has been made by the industry to organize itself on a proper footing. There are at present as many as three associations, *viz.*, the Glass Bangle Merchants Chamber, the Bangles Merchants Association and the Glass Merchants Industrial Association, besides a large number of non-member merchants. So long as there is more than one association, each claiming to represent the industry, there can be no harmonious relationship amongst them. For the development of the industry on healthy lines, it is necessary that there should be one representative body capable of speaking on behalf of the entire industry. We, therefore, recommend that the members of the existing associations as well as non-members should organize themselves into one single association. For the purposes of assessing the requirements of liquid gold and for ensuring its equitable distribution, the newly-formed larger association should appoint a representative Committee. This Committee, in consultation with the Glass Technologist to the Government of U.P., should draw up a list of the individual requirements of the merchants and approach the Government of India through the Glass Technologist to the Government of U.P., for the issue of import licences. In case, however, the U.K. is not in a position to meet fully the demand for liquid gold, the deficit should be made good by licensing imports from Germany and/or U.S.A., depending upon the foreign exchange position. Supplies, when received, should be distributed by the Committee strictly on the basis of the individual requirements and on actual output in the past. We consider that the above scheme, while satisfying the needs of the industry, will prevent any misuse of liquid gold

SECTION V.

SUGGESTIONS FOR THE DEVELOPMENT OF THE GLASS INDUSTRY

Steps to improve economic efficiency.

41. For the development of the glass industry as a whole on healthy lines, we recommend that steps should be taken to improve the efficiency both from the technical and the organisational points of view. As a result of our examination, we make below certain suggestions and recommendations in this connection:-

(a) Mechanisation of the different processes of manufacture: The Tariff Board of 1931 had discussed the importance of automatic machinery in the industry and had stated as follows:-

> "The scheme of protection should be so framed that the full benefit of protection will not be realised unless machinery is employed, and that uneconomical methods of production are discontinued."

The Board considered this to be a matter of vital importance but recommended a cautious approach to the problem in the following terms:-

> "A question of vital importance to the industry is the introduction of automatic and semi-automatic machinery in almost all processes of manufacture. Machinery however should not be installed except on considered recommendation, particular regard being paid to the low cost of Indian labour."

In the course of the public inquiry, we discussed how far various sections of the glass industry could be mechanised; and we set out below our conclusions and recommendations:-

(i) *Sheet glass section* : Major operations, such as, drawing of glass and annealing are carried out by all the factories mechanically in the automatic Fourcault machines. There are, however, auxiliary processes such as the treatment of raw materials like sand-washing, lime-crushing, mixing of raw materials and automatic feeding devices where mechanisation could be successfully adopted. We were informed by some of the manufacturers that they had plans for installing the necessary auxiliary machinery and that orders had already been placed for the purpose. As mechanisation would improve the quality considerably and also raise the output, we suggest that early steps should be taken by the industry to mechanise all branches of the sheet glass section of the industry. Moreover, control equipment for continuous recording of temperature would also go to improve the quality of sheet glass and we, therefore, recommend that the industry should install these machines.

(ii) *Blownware and pressedware:* The manufacturers agreed at the public inquiry that it was essential to mechanise the processes of manufacture so as to be able to compete with foreign articles in respect of quality and price. Opinion was, however, divided in regard to the extent to which automatic machinery could be introduced at the present stage, having regard to the volume of the demand for blownware and pressedware. As already mentioned, there are a few automatic machines operating in the country and some of the manufacturers have plans to start production of bottles and pressed tumblers in the near future by the automatic process. The large-scale use of automatic machines is, however, limited by the variety of articles that can be produced as well as by the high cost of moulds. The design and manufacture of moulds for the glass industry being a specialised job, requiring considerable technical skill and experience, it has not been possible to undertake the manufacture of such moulds in this country. The industry has, therefore, to depend upon supplies from abroad. Further, because of large amount of breakage and high freight rates, glass permits of transport over short distances only, thus allowing the sales in a restricted zone surrounding a factory. This zonal character of sales restricts the use of automatic machinery in the glass industry. The progress towards mechanisation has to be gradual, keeping pace with the development of consuming industries. Bottles used for squashes, aerated waters, certain types of tincture bottles and tumblers are some of the products for which there is at present a large demand. But their production by means of automatic machines cannot be advantageous so long as consumers continue to place small orders in different shapes and designs. The manufacturers stated before us that, if only the consuming interests could simplify and pool their requirements and place sufficiently large orders at a time it would be conducive to standardization and economy in production. We discussed this question at the public inquiry and found that, especially in the case of large-scale consumers like pharmaceuticals, preserved fruits, squashes and aerated waters, there should be no insuperable difficulty to standardise the shapes and designs of their bottle requirements. We, therefore, suggest that the manufacturers and consumers should get together and arrive at a workable plan whereby, maximum benefits of the automatic devices could be derived to mutual advantage. In the case of glass tubing, which is used for the manufacture of ampules and scientific apparatus, the use of automatic machinery would be particularly advantageous in view of the fact that not only is there a large demand for these articles but the need of maintaining a uniform and proper standard is imperative in their case. In view of the limited extent to which automatic machinery can be usefully employed, semi-automatic machines are, in our view, indispensable for producing goods to meet the demand of small-scale consumers. Manufacturers should, however, take particular care to increase their efficiency by better utilisation of labour, use of proper glass compositions, moulds of good quality, and stricter control of operating conditions.

(iii) Bangles : In the case of bangles, production is still carried on mostly on a cottage industry basis. Some manufacturers who are producing exclusively by manual labour produce special types of bangles for which no machinery has yet been devised. Except in respect of the finishing section, where facing and polishing of bangles is done on grinding wheels, there is no mechanisation of any of the other processes of manufacture. We have been informed by the Joint Registrar for Industrial Co-operative and Village Industries, Bombay, that certain machines have been devised by his Department to introduce partial mechanisation in the manufacture of bangles. Such machines are, however, not yet used in Firozabad which is the most important centre for the manufacture of bangles. Although we are not in favour of complete mechanisation of bangle-making, which is essentially a cottage industry, we consider the adoption of machines of small capacities in respect of batch mixing, bangle winding, and finishing of bangles would lead to an improvement of technical efficiency without, at the same time, causing much hardship in the form of loss of employment to the labour at present engaged in the industry. We, therefore, suggest that the Provincial Governments concerned should examine how far and in what manner the bangles industry can be suitably mechanised.

(b) *Quality* : It has already been pointed out that the main defects of sheet glass manufactured in the country are uneven thickness and surface, greenish tinge and brittleness due to the presence of particles of refractory in the glass. These defects can be rectified by taking suitable steps, such as, the use of washed and graded sand, better composition of the mix, use of proper type of refractory materials in the furnaces, strict control over the varying degrees of temperature in the different parts of the furnace, rigid control of the speed of the drawing equipment and the maintenance of proper temperature gradiant through the annealing "lehrs." So far as glass bottles are concerned, the main flaws are lack of uniformity in size and shape and a higher degree of brittleness resulting in heavy breakages in transport, storage and handling. Many of these defects can be remedied by the use of automatic bottle-making machines. But, so long as the industry has to use semi-automatic machines in preference to automatic machines owing to the restricted number and variety of articles which can be manufactured on automatic machines, the steps recommended in sub-paragraph (a) above should be adopted to improve the quality. Apart from the defects mentioned above, there is also another principal flaw of indigenous glassware from the point of view of the pharmaceutical industry, *viz.*, excess alkalinity which can be avoided by the proper control of the composition of the glass mix.

(c) *Consumption of soda ash* : On the question of consumption of soda ash, the Tariff Board of 1931 in its Report had observed that excessive quantities of soda ash were being utilised by the manufacturers in the production of both sheet glass and blownware. Subsequently, however, some progress has been made by some of the larger and better organised manufacturers towards reducing the quantity of soda ash consumed. Some of the manufacturers have been using soda ash so as to maintain an optimum ratio of 16 per cent. of sodium oxide to the total oxide present in the glass. There is, however, a tendency on the part of a number of manufacturers to use larger quantities of soda ash because of the fact that fusion occurs at lower temperatures with larger amounts of soda ash. Such excessive use of soda ash tends to increase the cost of production and also leads to a deterioration in the quality of the finished product, especially in regard to its durability and degree of alkaline content. We are of the opinion that steps should be taken by the manufacturers of glass to avoid wasteful use of soda ash.

(d) Furnaces and consumption of coal : The previous Tariff Board had suggested in its Report that furnaces installed in the works should be converted from the pot to the tank type and that direct firing should be substituted by gaseous fuel produced from coal. The Panel on the Glass Industry (1945) observed that although certain factories had changed over from pot furnaces to tank furnaces, a large number of the tank furnaces were of the direct firing type. The Panel estimated that out of a total of 174 glass factories in the country, only 24 were equipped with regenerative or recuperative furnaces. During the present inquiry we discussed the question of using suitable furnaces when it was found that most of the larger manufacturers had installed tank furnaces in their factories fired either by gaseous fuel or by oil. These large installations, however, still form a small fraction of the total number of units in the industry but even in regard to such units there is considerable scope for further improvement, particularly in respect of the combustion of coal in the gas producers so as to minimise coal consumption per ton of glass. In the course of our inquiry, we found that consumption of coal varied from 3.75 to 4.75 tons per ton of finished sheet glass. Taking into account the practice in foreign glass industries and allowing for the inferior quality of the indigenous coal and the conditions of operations in the country we are of the opinion that 1.4 to 1.5 tons of coal should be adequate to produce one ton of sheet glass. In the case of the blownware section, however, it was found that in the case of the two factories costed by us, the consumption of

coal was as high as 3.72 tons per ton of finished articles. In this case, consumption of 1.5 tons would be appropriate, provided proper equipment is used and necessary precautions are taken to work the units efficiently. So far as the bangles industry is concerned, manufacture is carried on in small pot furnaces which are directly fired. The units in the industry being small, the installation of gas producers for individual furnaces would not be feasible. But since the bangles industry is mostly localised in Firozabad and its suburbs, a centrally located gas plant in Firozabad for supply of gas to the various factories would render possible economical utilisation of fuel as well as kerosene oil used in joining the cut-ends of bangles. We, therefore, **recommend** that the bangles industry should take early steps to set up such a gas plant with the co-operation of the U.P. Government.

(e) Research and Technical Training:

(i) Research: It is hardly necessary for us to emphasise the importance of research for the development of the glass industry. In view of the rapid pace at which new and improved techniques of manufacture are being evolved in foreign glass industries, it is necessary for the indigenous industry to keep itself abreast of the technical developments in other countries. So far as the indigenous industry is concerned, apart from the pioneering work done by the Paisa Fund Glass Works, Talegaon, the industry itself has not contributed its full share towards promoting research or training its technical personnel. We have been informed that there is hardly a glass factory in India doing research work directed towards improvement in the quality of its products. Although, some of the factories recently made arrangements for testing their products, the facilities for testing are also inadequate. The industry should have its own well equipped laboratory for conducting research in various branches of glass manufacture. In the United Kingdom, the Department of Glass

Technology is maintained largely by subscription from the various firms in the industry and the types of researches undertaken by it range from purely scientific investigations to problems directly concerned with production. Although it is a matter for satisfaction that a Central Glass and Ceramic Research Institute has been established in Calcutta, this research institute is mainly designed for conducting basic research rather than industrial research. We, therefore, recommend, as a short term measure that until such time as the industry is able to set up a research institute of its own, the Research Institute at Calcutta should also conduct research on behalf of the industry whenever possible and assist the industry in solving its technical problems; the expenditure incurred for conducting such research should be met by the industry out of the contributions to be collected from its various units.

(ii) Technical Training: The Banaras Hindu University is the only institution where regular courses in glass technology are given. Besides wider opportunities for training of glass technologists in India, who are trained both in theory and practice of glass technology, it is necessary that advanced training in this line should be imparted to them in foreign institutes which have the necessary facilities for such training. After obtaining an academic training, such students should also obtain practical training from the highly developed foreign glass industries. We have been informed that except for a few factories in India, there is no regular scheme for the training of operatives for conducting the technical operations in factories. As technical training can be best obtained in a factory, we suggest that schemes for training of operatives should be undertaken by the manufacturers in well-established factories in the country. So far as the bangles section of the industry is concerned, the Panel on glass industry suggested a scheme for training of the operatives. As the industry is mainly located in the United Provinces and as it has its own particular problems, we suggest that the Government of U.P.

should consider the question of the establishment of a State-aided school for specialised training in bangles manufacture at Firozabad.

(f) Grading of factories: We were informed that out of nearly 130 factories at present, only about 20 factories can be taken to be well-organised. We understand that the question of grading of glass factories has been engaging the attention of the Development Committee of the D.G.I. & S. on the Glass Industry. We consider that the grading of factories is necessary to bring about an improvement in their productive efficiency. Steps should be taken by the D.G.I. & S. in this matter at the earliest possible opportunity to enable the glass industry to develop on proper lines.

(g) Standards for the products of the glass industry: We understand that the Indian Standards Institution, in collaboration with the representatives of the glass industry, is evolving requisite standards for different types of glassware as well as for raw materials used by the glass industry. As standards are essential for the healthy development of the industry, we trust that the industry will strictly adhere to the standards laid down by the Institution.

(h) Maintenance of statistical data: In the absence of reliable data, it has not been possible to assess accurately the industry's rated capacity as well as its actual production during the past few years. For a proper planning of the industry, full and reliable statistics in regard to the consumption of basic raw materials, capacity, actual production as well as the quantum of demand are absolutely essential. We, therefore, recommend that the All India Glass Manufacturers' Federation, Delhi, and the Glass Industrial Syndicate, Firozabad, should take necessary steps in this matter.

Question of eligibility for protection.

42. (a) Although we have recommended tariff protection in respect of the sheet glass section of the industry alone, we consider it necessary to deal with the glass industry as a whole for the purpose of this paragraph. As stated in paragraph 1 above, the claim of the glass industry for protection was the subject of investigation by the Tariff Board in 1931-32 which recommended the grant of protection on the ground that, in the opinion of the Board, the industry fulfilled the conditions laid down by the Fiscal Commission of 1921-22. Government at that time could not, however, see their way to accept this recommendation on the ground that the industry had failed to fulfil one of the conditions laid down by the Fiscal Commission, since the industry had to depend on imports for an essential raw material, namely, soda ash, which was not at that time produced in the country; Government held, therefore, that the industry did not possess a natural advantage in the shape of an abundant supply of raw material. But, as subsequent events showed, the dependence on imported soda ash did not prevent the glass industry from expanding, both during the inter-war period when it had to face severe foreign competition and also during the war when foreign competition had ceased but when the industry had to face several handicaps regarding raw materials and transport. This shows that the apparent disadvantage arising from the non-availability of soda ash within the country was more than counterbalanced by other natural advantages presented by the availability of most of the other raw materials including sand and also a fairly large and growing market. The expansion of this industry has, therefore, shown that the condition of natural advantages arising from the availability of a raw material within the country as laid down by the Fiscal Commission was rigid. It was in recognition of this defect in the criteria laid down by the Fiscal Commission that the Government of India, in their Resolution No. 218-T(55)/45, dated November 3, 1945, constituting the interim Tariff Board, waived this

condition. Apart from this, the manufacture of soda ash has been undertaken in the country during the last ten years and the claim for protection or assistance to the soda ash industry has been recently examined by the Board whose report is now under the consideration of Government.

(b) As mentioned in paragraph 2(b) above, the two conditions to be fulfilled by an industry claiming protection are (i) that it should be established and conducted on sound business lines; and (ii) that, having regard to the natural or economic advantages enjoyed by the industry and its actual or probable costs, it is likely within a reasonable time to develop sufficiently to be able to carry on successfully without protection or State assistance; or that the industry is one to which it is desirable in the national interest to grant protection or assistance and that the probable cost of such protection or assistance to the community is not excessive.

(c) In our opinion, the glass industry as a whole is conducted on sound business lines. In regard to the second condition, as has been clearly shown in sub-paragraph (a) above, the industry enjoys sufficient natural and economic advantages to ensure its ultimate development without protection or State assistance. In fact, as will be evident from the preceding paragraphs of the Report, two sections of the industry, namely, blownware and pressedware as well as bangles, do not require any protective duty at present. The bangles section of the industry is now well established and needs certain technical assistance; while the blownware and pressedware section has also developed fairly well and certain branches of it can compete successfully with foreign products both in respect of quality and of price. Further, as has been already indicated, the present revenue duty adequately safeguards the position of the industry. It is only the sheet glass section of the industry that needs protection to enable it to develop during the next two or three years. The grant of protection in the form recommended by us will not also involve any additional burden on the community, since only the existing revenue duty is to be converted into a protective duty at the same level. The glass industry also fulfils the alternative condition mentioned in the latter part of the second condition specified in sub-paragraph (b) above, namely, that the industry is one to which it is desirable in the national interest to grant protection or assistance. The wide range of uses of glass and glassware as well as the variety of goods which can be produced are almost unlimited and ensure an expanding market for the products of the glass industry in the coming years, particularly with industrial development and improvement in the standard of living of the people. We are satisfied that the glass industry fulfils the conditions laid down by Government for the grant of protection and, therefore, recommend protection for the sheet glass section of the industry.

SECTION VI

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

43. Our conclusions and recommendations are summarised as under:-

SECTION I - GENERAL

(i) The principal classes of articles which come within the scope of this inquiry are (i) sheet glass between 16 oz. and 32 oz. gauge; (ii) bottleware, tableware, lampware and pressedware; and (iii) bangles. (Paragraph 3).

(ii) There are 131 factories engaged in the manufacture of glass and glassware, mostly containers and lampware. 20 to 30 factories manufacturing tableware in addition to containers and 93 factories producing bangles, beads and false pearls. Three factories produce sheet glass, while nine factories produce scientific glassware. (Paragraph 5).

(iii) Machinery should be installed for washing and grading of sand so as to improve the colour and uniformity of the finished product. [Paragraph 6(A)].

(iv) Detailed investigations should be undertaken by the Geological Survey of India for discovering deposits of sand of high quality. [Paragraph 6(A)].

(v) Both the soda ash industry and the glass industry should co-operate so as to make possible the use of the indigenous light soda ash by the glass industry and the simultaneous development of the production of heavy ash by the soda ash manufacturers. [Paragraph 6(A)].

(vi) The Development Committee of the Directorate General of Industries and Supplies should explore the possibility of meeting the full requirements of the glass industry in respect of refractories from indigenous sources. [Paragraph 6(C)].

SECTION II - SHEET GLASS

(vii) The consumption of sheet glass of different gauges in the country for the next three years might be put at 32 million square feet per annum. (Paragraph 8).

(viii) The rated capacity of the existing three sheet glass units can be taken to be 15 million square feet of sheet glass per annum. (Paragraph 9).

(ix) There is considerable scope for improvement in the quality of indigenous sheet glass. (Paragraph 10).

(x) Separate records relating to imports of sheet glass should be maintained by the customs authorities. [Paragraph 11(A)].

(xi) An increase in the existing duty on sheet glass is not justified on the basis of comparison of the landed cost ex-duty of imported sheet glass with the Board's estimate of the fair selling price of indigenous sheet glass. (Paragraph 18).

(xii) In view of the existence of a certain amount of prejudice against indigenous sheet glass and also in view of the variety of uses to which sheet glass is being put, an increase in production and improvement in quality can be brought about by an assurance of protection to the indigenous sheet glass industry. (Paragraph 18).

(xiii) The existing revenue duty of 45 per cent. *ad valorem* on sheet glass of all gauges should be converted into an equivalent protective duty and should remain in force for a period of two years in the first instance, *i.e.*, up to 31st March, 1952. (Paragraph 18).

(xiv) If the recommendation to protect the sheet glass section of the industry is accepted, the First Schedule to the Indian Customs Tariff (Thirtieth Issue) should be amended as indicated in paragraph 19.

(xv) The protection recommended should adequately safeguard the industry and, as such, restriction on imports of sheet glass is not necessary except on balance of payments considerations. [Paragraph 20(a)].

(xvi) In respect of the grant of concessional freight rates for the transport of soda ash, the industry should make specific proposals to the Railway Board for consideration. [Paragraph 20(b)].

(xvii) The incidence of the existing rebate of customs duty on imported soda ash on the total cost of production is negligible. [Paragraph 20(c)].

(xviii) The continuance of the concession of duty on imported soda ash will not offer inducement to the glass manufacturers to use indigenous light ash nor to the manufacturers of soda ash to produce the variety of ash required by the glass industry, thereby impeding the development of the soda ash industry in the country. The concession should, therefore, be withdrawn. [Paragraph 20(c)].

SECTION III BLOWNWARE AND PRESSEDWARE

(xix) The domestic demand for blownware and pressedware may be estimated to be as follows: *BOTTLES AND PHIALS*-1 lakh tons during 1950, 1½ lakh tons during 1951, and 2 lakh tons during 1952; *LAMPWARE* (all sizes) - 10,000 tons per annum during the next three years; *TABLEWARE AND PRESSEDWARE* 10,000 tons per annum. (Paragraph 22).

(xx) The rated capacity of indigenous glass factories **for blownware and pressedware may be estimated to be as follows:** *BOTTLES AND PHIALS* - 1¼ lakh tons during 1950, 1½ lakh tons during 1951, and 2 lakh tons during 1952; *LAMPWARE* (all sizes) - 10,000 tons per annum during the next three years; *TABLEWARE INCLUDING TUMBLERS* - 9,000 tons per annum during the next three years; *PRESSEDWARE* - 4,000 tons per annum during the next three years. [Paragraph 23(a)].

(xxi) The indigenous production of blownware and pressedware of all descriptions during 1948 was 70,000 tons, nearly 60 per cent. of which constituted bottleware. Production has been steadily declining since 1945 owing to difficulties in the supply and transport of raw materials. [Paragraph 23(b)].

(xxii) While there is still room for improvement, the quality of indigenous glassware has improved considerably during the last ten years. The complaints regarding lack of uniformity in size and shape and the high percentage of breakage of indigenous blownware and pressedware would be eliminated when the plans for replacement and expansion of the existing plants materialise. (Paragraph 24)

(xxiii) The estimated fair selling prices of indigenous articles of blownware and pressedware are considerably lower than the landed costs of the corresponding imports. The need for the imposition of a protective duty, therefore, does not arise. (Paragraph 31).

(xxiv) All possible facilities should be afforded to the industry to secure the requisite technical personnel and such automatic or semi-automatic machinery as it desires to instal in order to improve the quality of its products and to expand its production. (Paragraph 31).

(xxv) Licences for imports of blownware and pressedware should be issued only to the extent that the indigenous production falls below the actual requirements of the country. (Paragraph 31).

(xxvi) While import controls might be necessary for balance of payments considerations, they should not be made the instrument of protection of indigenous industries. There should not also be sudden and large reversals of policy. Before import restrictions are relaxed or removed, the possible repercussions on the indigenous industry should be taken into account, particularly because of the tendency to resort to speculative imports irrespective of the quantum of actual demand. (Paragraph 31).

SECTION IV - BANGLES

(xxvii) The domestic demand for glass bangles during the next three years may be estimated at 12,000 tons per annum. (Paragraph 33).

(xxviii) The total productive capacity of the indigenous bangles industry is estimated at 35,000 tons per annum and its production in 1949 at 17,000 tons. (Paragraph 34)

(xxix) The indigenous bangles industry is able to compete successfully with large-scale and well-established branches of the industry in foreign countries and has successfully ousted their products from the home market. (Paragraph 35)

(xxx) Although some of the bangles produced indicate a high degree of skill on the part of the fabricators, further improvement in technical efficiency can only be brought about by properly organised research for which necessary technical assistance should be rendered to the industry. (Paragraph 35).

(xxxi) The existing revenue duty of 60 per cent. *ad valorem* sufficiently safeguards the position of the bangles industry. (Paragraph 39).

(xxxii) In their trade negotiations with neighbouring countries, Government should negotiate for exports of indigenous bangles to those countries. [Paragraph 40(a)].

(xxxiii) When trade relations are resumed between India and Pakistan and negotiations between the two countries take place, the question of securing concessional duties on bangles exported to Pakistan should be included in such negotiations. [Paragraph 40(b)].

(xxxiv) The Government of U.P. should make available to the bangle factories sufficient quantities of raw materials and consumable stores. [Paragraph 40(c)].

(xxxv) The bangle manufacturers of U.P. should organise themselves into one single association for the development of the industry on healthy lines. This association should obtain and distribute liquid gold among the bangle manufacturers as indicated in paragraph 40(d).

SECTION V - SUGGESTIONS FOR THE DEVELOPMENT OF THE GLASS INDUSTRY

(xxxvi) As mechanisation would considerably improve the quality of sheet glass and also raise output, early steps should be taken by the sheet glass units to mechanise all branches of this section of the industry. In respect of blownware and pressedware, large-scale mechanisation is not feasible in view of the limited variety of articles which can be produced on the automatic machines, while semi-automatic machines are indispensable for producing certain goods to meet the requirements of small-scale consumers. Greater efficiency could, however, be secured by better utilisation of labour, use of proper glass compositions, moulds of good quality, and stricter control of operating conditions. Although complete mechanisation of bangle-making is not desirable, in view of the fact that it is essentially a cottage industry, Provincial Governments concerned should consider how far and in what manner the bangles industry can be mechanised for improving the technical efficiency without, at the same time, causing hardship to the labour employed. [Paragraph 41(a) and (b)].

(xxxvii) Steps should be taken by the manufacturers of glass to avoid wasteful use of soda ash and coal. [Paragraph 41(c) and (d)].

(xxxviii) For the economical utilisation of fuel as well as kerosene oil, the bangles industry should set up at an early date a central gas plant in Firozabad with the co-operation of the U.P. Government. [Paragraph 41(d)].

(xxxix) Until such time as the glass industry is in a position to have its own well-equipped laboratory for conducting research in various branches of glass manufacture, such research should be undertaken on behalf of the industry by the Central Glass and Ceramic Research Institute at Calcutta, the expenditure on such research being met by contributions from the glass industry. [Paragraph 41(e) (i)].

(xl) The industry should undertake schemes for training of operatives in various processes of glass manufacture both in its own factories and in factories in foreign countries. As the bangles industry is mainly located in U.P., the Provincial Government should consider the question of the establishment of a State-aided school for specialised training in bangle manufacture at Firozabad. [Paragraph 41(e) (ii)].

(xli) Steps should be taken by the D.G.I. & S. for the grading of factories which is necessary to bring about an improvement in their productive efficiency. [Paragraph 41(f)]

(xlii) The industry should strictly adhere to standards to be prescribed for various products in consultation with the Indian Standards Institution. [Paragraph 41 (g)].

(xliii) The All India Glass Manufacturers' Federation and the Glass Bangles Industrial Syndicate should take concerted steps for the maintenance of reliable statistics in respect of rated capacity and production of various types of glass and glassware, including bangles. [Paragraph 41(h)].

(xliv) The glass industry fulfils the conditions laid down by Government for the grant of protection or assistance. (Paragraph 42).

Acknowledgments. 44. We desire to acknowledge the co-operation and help of the representatives of the glass industry who presented their case before us. Our thanks are also due to Mr. N. G. Mitra, Deputy Development Officer, Directorate General of Industries and Supplies, Government of India, Dr. A. Nadel, Glass Technologist to the Government of the United Provinces, the Collectors of Customs, Mr. S. S. Mehta, Technical Adviser, and Mr. S. V. Rajan, Cost Accountant attached to the Board, for the assistance rendered by them at the various stages of the inquiry.

G. L. MEHTA,
President.

B. V. NARAYANASWAMY,
Member.

सत्यमेव जयते

R. DORAISWAMY,
Secretary.

Bombay,
7th January, 1950.

APPENDIX I

(*Vide* Paragraph 1)

NO. 458-T(14).
GOVERNMENT OF INDIA
MINISTRY OF COMMERCE

Simla the 22nd June 1935.

RESOLUTION

(Tariffs)

In response to the representations of certain glass manufacturers in India the Government of India in their Resolution in the Department of Commerce No. 458-T(2), dated the 20th October 1931 referred to the Tariff Board for examination the claim of the indigenous Glass Industry for protection. The terms of reference directed that the Tariff Board should be guided by the principles laid down in the Resolution adopted by the Legislative Assembly on February 16, 1923, and that it should consider—

(1) Whether the conditions laid down in the Report of the Indian Fiscal Commission were satisfied in the case of the industry and to what extent, if any, and in respect of what articles or class or description of articles protection should be afforded;

(2) In what form and for what period protection, if any, should be given; and

3) How its recommendations, if any, would affect other industries.

सत्यमेव जयते

2. The Report of the Tariff Board, which is published today for general information, shows that the Glass Industry has a wide geographical distribution in India and that there are as marked differences in the nature of its products and in the methods of their manufacture as in its location. But whatever differences may exist in these respects, the Report makes it clear that all branches of the industry have a common need for the same raw materials. In Chapter II of its Report the Board, in accordance with its terms of reference, has investigated the natural advantages possessed by the industry with a view to determining whether it satisfies the first condition prescribed by the Indian Fiscal Commission and in particular it has

examined the resources of the industry in respect of raw materials. Of these by far the two most important are silica and soda ash, and while the Board is of opinion that ample supplies of the former in the form of sand of sufficiently good quality are available, it has found that satisfactory sources of soda ash are not yet in existence in India and that the industry is dependent on imported supplies. The Board does not, however, consider that this fact in itself invalidates the claim for protection and it finds that the first of the conditions prescribed by the Fiscal Commission is satisfied.

3. The Government of India regret that they are unable to accept this finding. They are of the opinion that the absence of indigenous supplies of raw material which in the United Provinces, where the Glass Industry is to a great extent concentrated, represents 70-75 per cent. of the total cost of materials and which even at ports of entry represents 30-45 per cent. of that cost, constitutes a disadvantage to the industry which cannot possibly be balanced by any advantages which it possesses in other respects. The Government of India are unable to distinguish the present case from that of the manufacture of electric wires and cables in which the Tariff Board itself held that the absence of indigenous supplies of copper was a fatal obstacle to the grant of protection.

4. At the time when its Report was written, however, the Tariff Board expressed the opinion that supplies of soda ash would in the immediate future be available in this country. The Government of India were therefore reluctant to reject the claim of the industry for protection until it has been ascertained whether or not the anticipations of the Board were likely to be fulfilled. Enquiry has, however, shown that the Board was unduly optimistic and that no adequate source of Indian soda ash has yet been developed. It is possible, however, that a fresh source of supply may be available within the next few years at Khewra and the Government of India do not propose to take a final decision on the claim for protection until the possibilities of this new source have been more fully explored.

5. There are a number of other matters in respect of which the Government of India are unable to accept the Tariff Board's conclusions,

but as they do not propose to take a final decision at present, it is unnecessary to discuss these now. In the meantime, until such final decision can be taken, the Government of India have decided to afford the glass manufacturing industry of certain measure of relief by way of rebate of the duty on imported soda ash. The proposed procedure for granting this rebate is as follows:-

When a Collector of Customs is satisfied that any consignment or part of a consignment of soda ash imported at his port has been supplied, after the date of this Resolution, to a glass manufacturer for use, within a reasonable period, in the manufacture of glass, he will on the request of the importer pay to the glass manufacturer a refund of the entire duty in the case of soda ash of British or colonial origin and of the excess over 10 per cent. *ad valorem* in the case of other soda ash. The refund will be paid by cheque to the manufacturer or his authorised agent.

This concession will continue for three years at the end of which period, if it appears that a *prima facie* case for protection then exists, a further reference will be made to the Tariff Board.

APPENDIX II

[*Vide* paragraph 4(a)]

List of firms or bodies to whom questionnaires were issued and those who submitted replies or memoranda.

* *Those who have replied to Board's questionnaire or submitted memoranda.*

** *Those who have submitted rated capacity only.*

PRODUCERS:

(i) *WEST BENGAL:*

** 1. Ashok Glass Works, 9, Ezra St. Calcutta.

* 2. Alembic Glass Industries Ltd., Baroda.

** 3. Asiatic Glass Works, 103, Fore Shore Road, Howrah.

** 4. Belur Glass Works, 203, Harrison Road, Calcutta.

** 5. Balsukh Glass Works, 7, Swallow Lane, Calcutta.

6. Barangone Glass Works, Bonnoghy, P.O. Alambazar, 24 Parganas, Calcutta.

** 7. Bengal Electric Lamp Works Ltd., 126, Mallapara Road, Jadavpure, 24 Parganas, Calcutta.

** 8. Bharat Glass Works Ltd., H.O. Belghurria, 24 Parganas, Calcutta.

** 9. Calcutta Glass & Silicate Works Ltd., 9, Kundu Lane, Belghurria, Calcutta.

**10. Central Glass Industries Ltd., 7, Swallow Lane, Calcutta.

11. Eastern Glass Works Ltd., 55, Chawlpetti Road, Beliaghata, Calcutta.

12. Eastern Scientific Glass Apparatus Co., 86/2, Bahir Sura Road, Calcutta.

*13. Electric Lamp Manufacturing Co. Ltd., 7, Justice Chandra Madhab Road, Calcutta.

**14. Everest Glass Works Ltd., 25, Robert St., Calcutta.

15. Glass Producers Ltd., 12, Chowringhee Square, Calcutta.

**16. Gurjars Ltd., 55, Bentinck St., Calcutta.

PRODUCERS: *(Contd.)*

(i) *WEST BENGAL (Contd.)*

16(a). Gopinath Glass Works,
P.O. Sitarampur, Burdwan.

17. Hardeo Glass Works, C/o Shree Govind Glass Works,
9, Ezra Street, Calcutta.

**18. Imperial Glass Works,
9, Ezra Street, Calcutta.

19. India Glass Works,
11,Ezra Street, Calcutta.

**20. International Glass Works,
101/2,Ultadanga Main Road, Calcutta.

21. Javaree Glass Works,
21-A,Canning Street, Calcutta.

**22. Jyoti Prasad Glass Works,
P.O. Raniganj, E.I.Rly., Burdwan.

*23. Krishna Silicate & Glass Works Ltd.,
17,Radhabazar Street, Calcutta.

**24. Lucky Glass Works,
165, Lower Chitpore Road, Calcutta.

25. Mantri & Co.,
8, Royal Exchange Place, Calcutta.

26. Metro Glass Works,
68, Jadu Mittar Lane, Calcutta.

**27. National Scientific Glass Works,
14, Mullick Street, Howrah.

**28. New Indian Glass Works (Calcutta) Ltd.,
7, Rawdon Street, Calcutta.

29. Oriental Glass Works,
58, Bahir Sura Road, Belliaghata, Calcutta.

**30. S. S. Glass Works,
P.O. Sitarampur, Burdwan.

31. Scientific Glass Works,
44, Kailash Bose Street, Calcutta.

32. Scientific Ceramic Industries,
8/1, Surndas Dutta Garden Home,
Ultadanga, Calcutta.

*33. Scientific Indian Glass Co. Ltd.,
6, Church Lane, Calcutta.

*34. Seraikella Glass Works,
P.O. Kandra, Dist. Singhbhum.

*35. Sodepore Glass Works Ltd.,
15, Netaji Subhas Road, Calcutta.

PRODUCERS: *(Contd.)*

(i) *WEST BENGAL (Contd.)*

**36. Sommany Glass Works Ltd.,
2,Wellesly Place, Calcutta.

**37. Shree Govinddeo Glass Works Ltd.,
9,Ezra Street, Calcutta.

**38. Shree Hanuman Glass Works,
149,Jogendranath Mukherjee Road,
Salkia, Howrah.

39. Surma Glass Works,
237,Manicktola Main Road, Calcutta.

**40. Shiva Glass Works Co. Ltd.,
32,Jackson Lane, Calcutta.

41. Thirani Co. Ltd.,
23/24,Radha Bazar Street, Calcutta.

**42. Victoria Glass Works,
Lyons Range, Calcutta.

(ii) *UNITED PROVINCES:*

**43. Allahabad Glass Works, P.O. Naini, Allahabad.
44. B. M. Glass Works, Firozabad.
45. Bibhuti Glass Works, Ramnagar, Banaras.
**46. Dholpur Glass Works Ltd., Dholpur.
47. Fine Glass Works, Mendu.
**48. General Glass Factory, Kirtapur.
**49. Khandelwal Glass Works, Aligarh.
50. Jain Glass Works, Harangar, (Dist. Agra).
51. The Kadari Glass Works, Firozabad, Agra.
52. Ganga Glass Works, Balawali,Dist. Bijnor.
53. Madina Glass Works, Firozabad.
**54. Mahavir Glass Works, Makhanpur, E.I.Rly.
55. Naini Glass Works, 187 Bahadurganj, Allahabad.
56. Narayana Glass Works, Makhanpur.
**57. National Glass Works, Tundla, E.I.Rly.
**58. Paliwal Glass Works, Shikohabad.
59. Prakash & Co. (Sangani Glass Works),
P.O. Naini, Allahabad.
*60. Radio Lamp Works, Shikohabad.
61. Shree Mahalaxmi Glass Works, Shahganj Road,Agra.

PRODUCERS: *(Contd.)*

(ii) *UNITED PROVINCES (Contd.)*

*62 Swadeshi Glass Works, P.O. Naini, Allahabad.
*63. U.P. Glass Works Ltd., Bahjoi.
64. Zamindari Glass Works, P.O. Naini, Allahabad.

(iii) *DELHI:*

65. Amar Glass Works, Post Box No. 185, Delhi.
66. Bawa Glass Works, 6 Hailey Road, New Delhi.
**67. Capital Glass Works Ltd.,
P.O. Malaknagar, *via* Gaziabad (Dist. Meerut).
68. Delhi Glass & Blowing Works, Sadar Bazar, Delhi.
69. Ishwar Industries Ltd., Ishwarnagar, Delhi.
70. Jayana Glass Works, Sadar Bazar, Delhi.

(iv) *EAST PUNJAB:*

**71. Amrit Glass & Chemical Works Ltd.,
Khasa, E.P.Rly. (Dist. Amritsar).
*72. Bhargava Glass Factory, Khasa (Dist. Amritsar)
*73. National Glass Factory, Amritsar.
*74. Upper India Glass Works Ltd.,
Abdullapur (Ambala City).

(v) *BOMBAY:*

*75. Alembic Glass Industries,
P.O. Alembic Chemical Works, Baroda.
**76. All India Glass Works,
111, Bhandari Street, Bombay 3.
77. Agarwal Glass Works,
428, Kalbadevi Road, Bombay 2.
**78. Baroda Crystal Glass Works Ltd.,
Pratapnagar, Baroda.
**79. Crystal Glass Works,
Sir P. M. Road, Fort, Bombay.
*80. Bombay Glass Works Ltd.,
Manmaler Tand Road, Bombay.
*81. Industrial & Engineering Apparatus Co. Ltd.,
Chotani Estates, Proctor Road, Bombay 7.
**82. Mahalaxmi Glass Works Ltd.,
Haines Road (West), Mahalaxmi, Bombay 11.
**83. Mahendra Glass Works Ltd., Morvi, Saurashtra.

PRODUCERS: *(Contd.)*

(v) *BOMBAY (Contd.)*

84. Metropolitan Glass Works Ltd., Podar Chambers,
2nd Floor, Parsee Bazar Street, Fort, Bombay.

85. New India Glass Works,
Ghodbunder Road, Jogeshwari, Bombay.

*86. Ogale Glass Works Ltd.,
Ogale Wadi, Dist. Satara.

*87. Paisa Fund Glass Works,
Talegaon (Dabhade), Dist. Poona.

**88. United Glass Works,
111, Bhandari Chakha Street, Bombay.

**89. Vijay Glass Works,
Near Mazgaon Tram Terminus, Bombay 10.

(vi) *MADRAS:*

**90. Ashok Glass Works,
23, Gantri Road, Perambur Barracks, Madras.

*91. Attur Glass Industries, Attur (Salem Dist.).

**92. Gopal Glass Works Ltd., Rajmundry, P.O.
Anaparthy (Dist. East Godavari).

**93. India Silicate Industries,
Fraser Square, Mettupaliyam.

94. Jamal Glass Works, Tondiarpet, Madras.

**95. Kohinoor Glass Factory, Begumpeth, M.S.Rly.

**96. Madras Glass Works Ltd.,
16, Cochrane, Basin Road, Madras.

97. Murlay Industries, 193, Mount Road, Madras.

**98. Nirmal Glass Works,
P.O. Olavakhot (South Malabar).

**99. Prabhakar Glass Works Ltd.,
65, Sydenham Road, Madras.

**100. Scientific Glass Products Ltd.,
Masulipatam, Krishna Dist., Madras.

*101. South India Glass & Enamel Works,
52/61, Arunachala Ayari Street, Salem.

**102. Syan Glass Factory, 182, Broadway, Madras.

**103. Sumangali Glass Bangle Works,
Tiruvottiyur P.O., Madras 19.

**104. Sunrise Glass Works Ltd.,
290, Tiruvottiyur High Road, Tiruvottiyur.

PRODUCERS: *(Contd.)*

(vii) *BIHAR*

105. Bhroach Glass Works,
Bhroachnagar, Ranagarh Camp, Hazaribagh.

**106. Bihar Glass Factory, Colgong, Bhagalpur.

107. Kandelwal Glass Works, Chota Ambona (Manbhum).

**108. Mahesh Glass Works, Hazipur.

**109. Patna Glass Works, Kankarbagh Road, Patna.

**110. Paradip Lamp Works, Patna City.

(viii) *OTHER PROVINCES:*

111. Nagpur Glass Works Ltd., Itwari, Nagpur.

112. Shree Durga Glass Works, Barang, Cuttack.

**113. Shree Onama Glass Works Ltd.,
P.O. Box No. 32, Jubbulpore.

(ix) *STATES:*

114. Bikaner Glass & Pottery Works, Bikaner.

115. Jeramnagar Glass Works, P.O. Jeramnagar.

*116. The Mysore Glass & Enamel Works Ltd.,
Gandhinagar, Bangalore City.

**117. Natwarsinghji Glass Works Ltd., Chhota Udepur.

*118. Taj Glass Works Ltd.,
Taj Building, Abid Road, Hyderabad (Dn.),

*119. Travancore Ogale Glass Manufacturing Co. Ltd.,
P.O. Udyogmandal, *via* Alwaye (S.I.Rly).

PRODUCERS' ASSOCIATIONS:

* 1. All India Glass Manufacturers' Federation,
Top Floor, Plaza Cinema, Connaught Circus,
New Delhi.

* 2. Bengal Glass Manufacturers' Association,
P-11, Mission Row Extension, Calcutta.

* 3. Glass Bangles Merchants' Chamber,
Firozabad, U.P.

* 4. Glass Industrial Syndicate,
Firozabad.

5. Northern India Glass Manufacturers' Association,
C/o Upper India Glass Works Ltd.,
Abdullapur, Ambla City.

6. South India Glass Manufacturers' Association,
34, Gandhi Nagar, Bangalore City.

PRODUCERS' ASSOCIATIONS: *(Contd.)*

* 7. U.P. Glass Manufacturers' Syndicate,
C/o Kaycee Glass Works Ltd., Shikohabad.

* 8. Western India Glass Manufacturers' Association,
C/o Ogale Glass Works Ltd.,
Ogalewadi, Satara.

In addition to the above bodies/firms, questionnaires were also sent to all chambers of commerce, trade associations and Directors of Industries, Provincial Governments; Memoranda were received from the following:-

1. Director of Industries, Govt. of U.P., Kanpur.
2. Director of Industries, Govt. of C.P. & Berar, Nagpur.
3. Director of Industries, Govt. of Madras, Madras.
4. The Director of Industries, Govt. of West Bengal, Calcutta.
5. Superintendent, Village Industries, Experimental Workshop, Poona 5.

INDIVIDUALS:

* Mr. Brij Mohan Bhatnagar,
Near Temple Dwarikadish, Firozabad.

IMPORTERS:

1. Abdul Rehman & Co.,
151, Chakla Street, Bombay 3.

2. Abdul Hussain Karimji Arsiwalla,
136, Abdul Rehman Street, Bombay 3.

3. Abbasbhoy Kaderbhoy Arsiwalla,
68, Abdul Rehman Street, Bombay 3.

* 4. A. K. Badami Arsiwalla,
82, Abdul Rehman Street, Bombay 3.

* 5. Adair Dutt & Co. Ltd.,
5, Dalhousie Square, Calcutta.

6. Allied Agencies Limited,
M.P.C. Bank Bldg., Esplanade, Madras.

* 7. A. Swamy, 11-A, Umpherson Street, Madras.

8. Akbarali Alibhoy,
201/202, Devraja Mudalay Street, Madras.

9. Anglo Thai Corporation Ltd.,
Ewart House, Fort, Bombay.

IMPORTERS: *(Contd.)*

10. Army and Navy Stores, Ltd.,
Esplanade Road, Bombay.

11. Amernath Kundu & Bros.,
Old China Bazar Street, Calcutta.

12. A.V.R.A. & Co., 6, Lohar Street, Bombay.

13. All India Bottle Supplying Co.,
153/155, S. Devji Road, Bombay.

* 14. Baluja Glass Co., Fatehpuri, Delhi.

* 15. Bombay Glass Bangles Merchants' Association,
67/69, Bazar Gate Street, Bombay 1.

* 16. Bombay Glassware Merchants' Association,
Sheriff Devji Street, Bombay 3.

17. Bombay Co. Ltd., 28, Pollock Street, Calcutta.

18. B.K. Shah, 67, Radha Bazar Street, Calcutta.

19. Bijlee Products India Ltd.,
35, Lamington Road (North), Bombay.

20. Bhudhabhoy Noorbhoy & Co.,
199, Abdul Rehman Street, Bombay 3.

* 21. Bharoomal and Co.,
Abdul Rehman Street, Bombay 3.

22. Buy and Happy Stores, Kalbadevi Road, Bombay.

23. Bharat Bottle Co.,
157, Sheriff Devji Street, Bombay 3.

24. C.J. Seth and Company, 2, Bunder Street, Madras.

* 25. Carew and Co. Ltd., 4, Fairlie Place, Calcutta.

26. Central Trading Co. Ltd.,
8, Cowasji Patel Street, Fort, Bombay.

27. Chimanlal Desai and Co.,
Homji Street, Fort, Bombay.

28. Dhirajlal and Morarji,
Mulchand Mansion, Princess Street, Bombay.

29. Dialdas and Sons,
190, Princess Street, Bombay 2.

* 30. Daudbhai M. Tayebally,
110, Abdul Rehman Street, Bombay 3.

* 31. Denis Malcolm and Co. Ltd.,
D-5, Clive Buildings, 8, Clive Street, Calcutta.

* 32. D. Ramaiah and Sons,
234, Devraj Mudalay Street, Madras.

IMPORTERS: *(Contd.)*

33. D. Ramanujaya and Sons,
87-88, Devraj Mudalay Street, Madras.

* 34. D. Srinivasan and Co.,
9, Wall Tax Road, Madras.

35. E.M. Abdulla and Co.,
815/13, China Bazar Road, Madras.

36. Ellis International Trading Co.,
Nawab Bldg., Hornby Road, Fort, Bombay.

37. East Asiatic and Co. (India) Ltd.,
1st Line Beach, Madras 1.

* 38. F. W. Pollack & Co.,
43, Forbes Street, Fort, Bombay.

39. Friends and Co.,
Ramesh Mitter Road, Calcutta.

40. F. Racket and Co.,
57, Radhabazar Street, Calcutta.

* 41. F. Ihl and Co.,
Kerawala Mansion, 1st Floor, Carnac Road,
Bombay 2.

42. Gujrat Bottles Stores,
Malayaperumal Street, Madras.

43. G. Melnikoff,
Lohar St., Vithal Sayana Bldg., Bombay 1.

* 44. Gulamhoosen Valji Arsiwalla,
166, Abdul Rehman Street, Bombay 3.

45. Gulamhusain Kasam & Co.,
120-122, Janjikar Street, Bombay.

* 46. Griffin Tatlock (India) Ltd.,
274, Hornby Road, Bombay.

47. G. L. Killkar, Mutton Cherry, P.O. Cochin.

48. General Electric Co. (India) Ltd.,
Magnet House, Madras 2.

49. General Electric Co. (India) Ltd.,
Magnet House, Central Avenue, Calcutta.

* 50. G. Willinkson, Representing Pilkington Bros. Ltd.,
Post Box No. 682, Bombay.

51. Gotz India Ltd., Western India House,
Sir P.M. Road, Fort, Bombay.

52. Grahams Trading Co. (India) Ltd.,
16, Bank Street, Fort, Bombay.

53. Grahams Trading Co. (India) Ltd.,
6, Lyons Range, Calcutta.

54. Glassware & Chinaware Supplying Bureau,
Royal Bldg., 95, Janjinar Street, Bombay 3.

* 55. H. Manory Ltd.,
D/5, Clive Buildings, Calcutta.

56. Himalaya Trading Co., Fatehpuri, Delhi.

57. Hasanalli Jaffarbhai Arsiwalla,
152, Jamli Mohalla, Bombay 3.

58. Hasanalli Bros., Chakla Street, Bombay 3.

59. Hill Elliot Co. Ltd.,
15, Graham Road, Bombay 1.

60. Heatly & Gresham Ltd.,
P-4, Mission Row Extension, Calcutta.

61. Jamal Bros., 289, China Bazar Road, Madras.

62. J.B. Advani & Co. Ltd.,
P.B. 1261, Loane Square, Broadway, Madras.

63. James Wright Co.,
15, Chittaranjan Avenue, Calcutta.

64. Justice & Co.,
Venkatachalam Mudalay Street, Madras.

* 65. Karimji Ebrahimji Arsiwalla,
118/120, Abdul Rehman Street, Bombay 3.

* 66. Koonju Behary Chandra & Sons Ltd.,
10, Swallow Lane, Calcutta.

67. K.S. Shivji & Co.,
144-46, Sheriff Devji Street, Bombay 3.

* 68. K.S. Shivji & Co., 178-79, Broadway, Madras.

69. K.S. Shivaji & Co., 33, Canning Street, Calcutta.

70. Kanji Shivji Parekh, 55, Canning Street, Calcutta.

71. Kantawalla & Co., 77, Meadows Street, Fort, Bombay.

72. L. Karimbhoy & Co., 156, Chakala Street, Bombay 3.

73. Lala Gopikrishna Gokuldas, 119, Mint Street, Madras.

74. Littles Oriental Balm, Madras.

75. Madras Bottle Supply & Co.,
Malayaperumal Street, Madras.

* 76. M. Mitter & Co. Ltd.,
114, Hazara Road, Calcutta.

* 77. Mappin & Webb (India) Ltd.,
Central Bank Building, Bombay.

IMPORTERS *(Contd.)*

* 78. Mohamadbhai Adamji & Co.,
16, Mirza Street, Parsi Gali, Bombay 3.

* 79. Mohamadbhai Valiji Arsiwalla,
76, Abdul Rehman Street, Bombay.

80. Moosa Omer & Co., Mohammedaly Road, Bombay 3.

81. Mohmed Ahmed & Bros.,
220, Cutlery Bazar, Bombay 3.

82. M.N.S. Radhakrishnaih,
10-14,Devaraj Mudalay Street, Madras.

83. Maharaja Frame Works, Chickpet, Bangalore City.

84. Mousell & Co. Ltd.,
7-9, Mathew Road, Bombay.

85. Noble Trading Co.,
174, Abdul Rehman Street, Bombay 3.

* 86. Nanubhai Jewellers,
115, Esplanade Road, Fort, Bombay.

87. N. Manseta & Bros.,
165, Lohar Chawl, Bombay.

88. National Industries Ltd., Hyderabad Dn.

89. Oriental Import & Export Agency,
New Silk Bazar, Bombay.

* 90. Parry & Co. Ltd., Post Box No. 12, Madras.

91. Ruttonji Piroshaw Tata & Co.,
40, Khand Bazar, Mandvi, Bombay.

92. Ratilal Parekh & Co.,
Bombay Mutual Bldg., Sir P.M. Road, Bombay.

93. R. Ethirajah & Sons,
103, Devraj Mudalay Street, Madras.

* 94. R.B. Mandal & Co., 9, Clive Road, Calcutta.

95. Saiga & Co., 105, Apollo St., Fort, Bombay.

96. Sanghani & Co., 178-80, Abdul Rehman St., Bombay 3.

97. Scientific Industries Co. Ltd.,
11, Esplanade East, Calcutta.

98. Sen & Co., 37, Motilal Street, Calcutta.

*99. Sepulchre Bros. (India) Ltd.,
Taj Building, Hornby Road, Fort, Bombay.

100. Shah Jivabhi Sakalchand Motiwalla,
P.O. Box No. 2, Bombay.

*101. Saxby Farmer (India) Ltd.,
17, Convent Road, Calcutta.

IMPORTERS *(Contd.)*

102. Shree Hiralal & Co.,
28-30, Chakala Street, Bombay 10.

*103. Scott & Pickstock Ltd.,
2, Clive Ghat Street, Calcutta.

104. Scientific Instrument & Co. Ltd.,
Hornby Road, Bombay.

105. Sultan J. Padamsee & Co.,
89, Mohamedally Road, Bombay 3.

106. S.O. Muthu Nadar, Malayaperumal Street, Madras.

*107. Tribhovandas Maneklal Taktawalla,
1924, Gandhi Road, Ahmedabad.

108. Tyeballi Ebrahimji & Co.,
166, Abdul Rehman Street, Bombay 3.

109. T.L. Pathy & Co., Malayaperumal Street, Madras.

*110. Universal Trading Co.,
36, Venkatachala Mudalay Street, Madras.

111. Westend Corporation,
52-58, New Hanuman Lane, Bombay.

112. Whiteaway Laidlaw & Co. Ltd.,
Hornby Road, Bombay.

*113. W.T. Suren & Co. Ltd.,
United India Bldg., Sir P.M. Road, Fort, Bombay.

CONSUMERS:

* 1. Aluminium and Glassware Emporium,
289, Netaji Subhas Chandra Road, Madras.

2. Abdul Rahim & Bros., Evening Bazar, Madras.

* 3. Alpyne Cosmetic Laboratories (India),
Janmabhoomi Chambers, Fort, Bombay.

* 4. Amritlal Chander, Clive Building, Calcutta.

5. Abdulally Noorbhoy,
122/24, Abdul Rehman Street, Bombay 3.

* 6. Alembic Chemical Works Co. Ltd., Baroda.

7. Abdul Razak & Co.,
Opp. Jumma Masjid, Takia Ward, Kurla.

* 8. A.R. Raju & Bros.,
Ramchandrapuram, East Godawari Dist., Madras Presidency.

* 9. All India Food Preservers' Association,
18-A, Aurangzeb Road, New Delhi.

CONSUMERS- (Contd.)

*10. All India Perfumery & Cosmetic Manufacturers' Association , 92, Ardeshir Dady Street,
Vithalbhai Patel Road, Bombay 4.

*11. All India Soap Makers' Association,
4, Clive Ghat Street, Calcutta.

12. Bhide Bros., Hyderabad (Deccan).

*13. Bengal Chemical & Pharmaceutical Works Ltd.,
Manicktola Main Road, Calcutta.

*14. Bengal Distilleries & Co. Ltd., Konnagar.

*15. Beharilal Dey & Co. Ltd.,
9, Swallow Lane, Calcutta.

16. Bawa Glass Co., Fatehpuri, Delhi.

17. Bathgate & Co.,
G.M. Sethna House, Carmichael Road, Bombay.

*18. Corn Products Co. (India) Ltd.,
Waudby Road, Fort, Bombay.

19. Central Engineering Co.,
125, Nagdevi Street, Bombay.

*20. Chief Controller of Purchase,
D.G.I. & S., New Delhi.

*21. Castophene Manufacturing Co.,
Opp. Electric House, Colaba (Bombay).

*22. D. Somoo & Co.,
318, Walltax Road, Park Town, Madras.

23. D. Manick Swamy, Walltax Road, Madras 3.

24. Director, Engineering Research,
Hyderabad, Deccan.

25. Dyer Meakins Brewery, Solan, Simla Hills.

26. Drug Research Laboratory, Jammu & Kashmir Govt.,
Jammu Tavi (Jammu & Kashmir State).

*27. E.M. Abdulla & Co.,
315-18, Netaji Subhas Chandra Bose Road, Madras.

*28. East India Distilleries & Sugar Factories Ltd.,
Nellikuppam.

*29. Godrej Soap Ltd., Parel, Bombay.

30. Glassware & Allied Products Co.,
62, Malayaperumal Street, Madras.

31. General Agencies,
61, Silver Jubilee Park Road, Bangalore 2.

CONSUMERS *(Contd.)*

*32. Government Distilleries,
Narayanaguda, Hyderabad (Deccan).

33. Gomraj & Sons,
1, Narayan Mudali Street, Madras 1.

*34. Glacier Products, Pathankot (East Punjab).

*35. Hyderabad Chemical & Pharmaceutical Works Ltd.,
Hyderabad (Deccan).

36. Haji Wali Ullah & Sons, Bareilly.

*37. Hargovind Dharamsi, 31, Mirza Street, Bombay.

*38. Indian Processed Food Manufacturers' Association,
30-4, Rani Rashmoni Road, Calcutta.

39. Indian Chemical Manufacturers' Association,
Shreenivas House, Outram Road, Fort, Bombay.

*40. Jamnadas Gopaldas, Aminabad, Lucknow.

*41. Jayanand Khira & Co., Kothare Bldg., Bombay.

*42. K.S. Shivji & Co., 178-79, Broadway, Madras.

*43. Kalvert & Co., 123, Upper Duncan Road, Bombay 8.

*44. Koonju Behari Chandra & Sons Ltd.,
10, Swallow Lane, Calcutta.

*45. Kales Ink Manufacturing Co.,
Ramdeo Bungalow, Kurla, Bombay.

*46. Mcphalls Trading Co., Bombay 19.

*47. Martin & Harris Ltd.,
Mercantile Bldg., Lal Bazar Street, Calcutta.

*48. Municipal Commissioner,
Bombay Municipal Corporation, Bombay 1.

49. Manmall Misrimall,
Narayan Mudalay Lane, Madras 3

50. Noor Mohmad & Co., China Bazar, Madras.

*51. National Chemical Laboratories, Poona 5.

*52. Nutex (India) Ltd.,
Devkaran Mansions, Princess Street, Bombay.

*53. National Food Products Ltd., Hyderabad (Dn.).

54. Nirmani Chander & Bros., 7, Swallow Lane, Calcutta.

*55. Officer on Special Duty, 1st Grade College,
University of Mysore, Mysore.

*56. Popat Jamal & Sons, Broadway, Madras.

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CONSUMERS *(contd.)*

57. P. Alimohamed·Zuina, Rattan Bazar, Madras.
58. Pulgaon Cotton Mills, 59, Apollo St., Bombay.
59. Patiala Excise Department, Patiala.
*60. Provincial Indian Medical Practitioners
Co-operative Stores, Adyar, Madras.
*61. Pharmaceutical & Allied Manufacturers
& Distributors Association Ltd.,
G.P.O. Post Box No. 214, Bombay.
*62. Raptakos Brett & Co. Ltd.,
Dr. Annie Basant Road, Worli, Bombay.
63. Ranchi Metal Supply Co., P.O. Box 31, Ranchi.
*64. Sri Ram Campher Garland Works, Cocanada.
*65. Sen & Co., 37, Moti Sil Street, Calcutta.
*66. Secretary, Ministry of Works, Mines & Power,
New Delhi.
67. Secretary, Railway Board, New Delhi.
*68. Secretary, Bombay Port Trust, Bombay.
*69. Secretary, Madras Port Trust, Madras.
*70. Secretary, Calcutta Port Trust, Calcutta.
*71. Scientific Apparatus Traders Association,
18, Princess Street, Bombay 2.
72. Sha, Rikabdas Chaganraj,
Narayan Mudali Street, Madras 1.
*73. Spencer & Co. Ltd., Mount Road, Madras.
74. Sarabhai Chemical Works Co. Ltd., Baroda.
*75. Sanitax Chemical Industries Ltd., Baroda.
76. Sundardas Saw Mills,
Opp. Reay Road Station, Bombay.
77. Saraswati Sugar Mills, Abdullapur, Dist. Ambala.
78. Saubhagya Kankan Stores,
27/A, Swadeshi Market, Kalbadevi, Bombay.
79. Sharda Novelty House,
96, 3rd Bhoiwada, Bombay 2.
*80. Tata Oil Mills Co. Ltd.,
Bombay House, Bruce Street, Fort, Bombay.
*81. Travancore Sugars & Chemicals Ltd., Trivandrum.
*82. Teddington Chemical Factory,
United India Building, Sir P.M. Road, Bombay.

CONSUMERS *(Contd.)*

- *83. Vijaya Chemicals & Toilet Works,
  21/22, Surya Narayan Chetty St., Rayapuram, Madras.
- *84. Vincent & Co. Ltd., Trichinopoly.
- *85. Bombay Aerated Water Manufacturers' Association,
  69, Tardeo Road, Bombay 7.
- *86. Ahmedabad Aerated Water Works Association,
  Haripura, Asarwa, Ahmedabad.

APPENDIX III

[*Vide* Paragraph 4 (b)]

Statement showing the dates of visit to factories by the President, Members, Secretary and other Officers of the Board.

SL. NO.	NAME AND LOCATION OF THE FACTORY	DATE OF VISIT	BY WHOM VISITED.
1.	Sodepore Glass Works Ltd., Sodepore.	22nd March, 49	President & Dr. Dey.
2.	New India Glass Works (Calcutta) Ltd., Dum Dum, Calcutta.	22nd March, 49	President & Dr. Dey.
3.	Scientific Glass works Ltd., Calcutta.	10th June, 49	Dr. Dey.
4.	Ogale Glass Works Ltd., Ogalewadi (Dist. Satara).	25th June, 49	President, Dr. Dey, Dr. Naidu, Mr. Rahman & Secretary.
5.	Paisa Fund Glass Works, Talegaon, Poona District.	5th July, 49	President.
6.	The Madras Glass Works Ltd., Madras.	3rd Aug., 49	Dr. Naidu.
7.	Sayani Glass Works, Madras.	3rd Aug., 49	Dr. Naidu.
8.	The Mysore Glass & Enamel Works Ltd., Bangalore.	3rd Aug., 49	Mr. Rahman.
9.	Travancore Ogale Glass Mfg. Co. Ltd., Alwaye.	23rd Feb., 49	Mr. S.S. Mehta.
10.	Capital Glass Works Ltd., New Delhi.	8th April, 49	Mr. S.S. Mehta.

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SL. NO.	NAME AND LOCATION OF THE FACTORY	DATE OF VISIT	BY WHOM VISITED.
11.	The Mysore Glass & Enamel Works Ltd., Bangalore.	3rd May, 1949	Mr. S.S. Mehta.
12.	Glass bangle factories at Firozabad.	16th to 22nd May, 1949	Mr. B.S. Narula.
13.	Sodepore Glass Works Ltd., Sodepore.	23rd May, 49	Mr. S.S. Mehta & Mr. S.V. Rajan.
14.	New India Glass Works Ltd., Dum Dum.	24th May, 49	Mr. S.S. Mehta & Mr. S.V. Rajan.
15.	Scientific Glass Works Ltd., Calcutta.	25th May, 49	Mr. S.S. Mehta.
16.	Ogale Glass Works Ltd., Ogalewadi (Dist. Satara).	18th July, 49	Mr. S.V. Rajan.
17.	Seraikella Glass Works Ltd., Kandra, Singhbhum.	25th July, 49	Mr. S.V. Rajan.

APPENDIX IV

[*Vide* **paragraph** 4 (c).]

List of persons who attended the public inquiry held on 23rd, 24th, 25th, 26th and 29th August, 1949.

PRODUCERS:

1.	Mr. Gurusharan Lall	Representing	Sodepore Glass Works Ltd., 15, Netaji Subhas Road, Calcutta.
2.	Mr. D.N. Agarwal		
3.	Mr. T. Gupta	"	All India Glass Manufacturers Federation, Top Floor, Plaza Cinema, Connaught Circus, New Delhi, and U.P. Glass Manufacturers' Syndicate, Shikohabad R.S.
4.	Mr. Shankar Rao P. Ogale	"	South India Glass Manufacturers Association and Mysore Glass and Enamel Works Ltd., 34, Gandhinagar, Bangalore City.
5.	Mr. P.S. Padhye		

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PRODUCERS: (Contd.)

6.	Dr. M.M. Kohli	Representing	Western India Glass Manufacturers Association, C/o Ogale Glass works Ltd., Ogalewadi, Dist. Satara.
7.	Mr. H.C. Varshnei	"	Seraikella Glass Works Ltd., P.O. Kandra, B.N. Railway, Dist. Singhbum and U.P. Glass Works Ltd., Bahjoi, Dist. Muradabad.
8. 9.	Mr. B.K. Khanna Mr. S.K. Bhargava	"	Northern India Glass Manufacturers Association, C/o Upper India Glass Works Ltd., Ambala City.
10. 11. 12.	Mr. D.K. Kunte Mr. D.K. Watve Mr. G.U. Chitale	"	Paisa Fund Glass Works, P.O. Talegaon, Dist. Poona.
13. 14. 15.	Mr. Hirday Narain Gupta Mr. Tundamal Mr. Brija Mohan Bhatnagar	"	Glass Industrial Syndicate, Firozabad, Dist. Agra.
16.	Mr. R.S. Saini	"	Bangles Association, Firozabad, Dist. Agra.
17.	Dr. S.R. Lele	"	Industrial and Engineering Apparatus Company Ltd., Chotani Estates, Procter Road, Bombay 7.
18.	Mr. H.C. Gupta	"	Madras Glass Works Ltd., 16, Cochrane Basin Road, Madras 21.
19. 20.	Mr. M. H. Ismail Mr. Des Raj	"	Taj Glass Works Ltd., Taj Building, Abid Road, Hyderabad Deccan.
21. 22.	Mr. R.R. Chandorkar Mr. N.D. Sane	"	Vijaya Glass Works, Near Mazagaon Tram Terminus, Bombay 10
23. 24.	Mr. P.D. Gupta Mr. P.S. Upadhiyaj	"	Mahavir Glass Works, Makhanpur, E.I.R., U.P.

PRODUCERS *(Contd.)*

25.	Mr. K.N. Desai	"	Bengal Glass Manufacturers' Association, P-11, Mission Row Extension, Calcutta.
26.	Mr. S.P. Sinha		
27.	Mr. S.J. Savant		
28.	Mr. R.N. Sen		

IMPORTERS:

1.	Mr. J.N. Gagrat	"	The Bombay Glassware Merchants' Association, Sheriff Devji Street (Chakla), Bombay.
2.	Mr. C.J. Dave		
3.	Mr. R.B. Shah		
4.	Mr. Kumaria Harver	"	Carew & Co., Ltd., Place, Calcutta.
5.	Mr. J.T. Kellock	"	Pilkington Brothers Ltd., Khatau Building, 40-44, Custom House Road, Fort, Bombay.
6.	Mr. G. Jarvis		
7.	Mr. K.J. Shah	"	Bombay Glass Bangles Merchants' Association, 67-69, Bazar Gate St., Fort, Bombay.
8.	Mr. D.A. Marathe		
9.	Mr. J.A. Taktawalla	"	Tribhovandas Maneklal Taktawalla, 1924, Gandhi Road, Ahmedabad
10.	Mr. D.F. Ihl	"	F. Ihl & Co., Kerawala Mansion, 1st Floor, Carnac Road, Bombay 2.
11.	Mr. K.A. Dotiwalla		
12.	Mr. Fida-Aly Gulamhusein Arsiwalla.	"	Goolamhoosein Valji Arsiwalla, 116, Abdul Rehman St., Bombay 3.
13.	Mr. Abdulhusain Essaji Arsiwalla.	"	Karimji Ebrahimji Arsiwalla, No. 116-120, Abdul Rehman Street, Bombay 3.
14.	Mr. M. Sankar	"	Sepulchre Bros. (India) Ltd., Taj Building, Hornby Rd., Fort, Bombay.

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IMPORTERS *(Contd.)*

15. Mr. K.P. Ramasami	Representing	Parry & Co., Ltd., Post Box No. 12, Madras.

CONSUMERS:

1. Mr. Neil M. Cameron	"	Pharmaceutical & Allied Manufacturers' & Distributors' Association Ltd., Savoy Chambers, Wallace St., Fort, Bombay.
2. Mr. J.D. Norrie		
3. Mr. E.J. Fairbrass		
4. Mr. Philip H. Brown	"	Corn Products Co. (India) Ltd., P.O.Box 994, Bombay 1. and All India Food Preservers' Association, 18-A, Aurangzeb Road, New Delhi.
5. Mr. B.B. Sardeshpande		
6. Mr. S.P. Godrej	"	All India Soap Makers' Association, 4 Clive Ghat Street, 2nd Floor, Calcutta.
7. Mr. P.N. Das Gupta		
8. Mr. J.N. Banerji		All India Soap Makers' Association and Tata Oil Mills Co., Ltd., Bombay House, Bruce St., Fort, Bombay.
9. Mr. K.M. Antia	"	
10. Mr. Saroj Mohan Dutt	"	Bengal Chemical & Pharmaceutical Works Ltd., 94, Chittaranjan Avenue, Calcutta.
11. Mr. I.S. Shivji	"	K.S. Shivji & Co., 144-146, Sheriff Devji St., Bombay 3.
12. Mr. K.C. Batra	"	A. Kalvert & Co., 123, Upper Duncan Road, Bombay 8.
13. Mr. B.K. Nandi	"	Teddington Chemical Factory Ltd., United India Building, Sir P.M. Road, Bombay.

CONSUMERS: *(Contd.)*

14.	Mr. D.J. Panday	Representing	Bombay Aerated Water Manufacturers' Association, 69, Tardeo Road, Bombay 7.
15.	Mr. M.E. Master		

OFFICIALS:

1.	Mr. N.G. Mitra	"	D.G.I. & S., New Delhi.
2.	Mr. K. Narasimhan	"	Collector of Customs, Bombay.
3.	Dr. A. Nadel	"	Director of Industries, Government of U.P., Kanpur.
4.	Mr. M.R. Mandlekar	"	Director of Industries, Government of Bombay, Bombay.
5.	Mr. S.G. Mehandale	"	Joint Registrar for Industrial Co-operatives and Village Industries, Poona 3.

OTHERS:

1.	Mr. J.K. Body	"	Imperial Chemical Industries (India) Ltd., Ballard Estate, Bombay.
2.	Mr. V. Kozak	"	Czechoslovakian Glass Export Co., Prague.

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APPENDIX V

[Vide paragraph 11 (a)]

STATEMENT SHOWING THE QUANTITY AND VALUE OF SHEET AND PLATE GLASS IMPORTED INTO THE COUNTRY DURING THE PERIODS 1936-37 TO 1938-39 AND 1946-47 to 1948-49.

ITEMS OF GLASS-WARE.	ORIGIN OF IMPORT	P R E - W A R						P R E S E N T					
		1936-37		1937-38		1938-39		1946-47		1947-48		1948-49	
		QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
Sheet & Plate	United Kingdom		2,66,000		3,44,000		2,88,000	118,283	25,46,327	62,970	21,62,786	64,102	26,22,921
	Ceylon		-		-		-	954	31,278	-	-	-	-
	Sweden		-		-		-	108	4,480	1,240	48,385	22,967	5,78,899
	Belgium		11,63,000		13,03,000		9,62,000	26,713	10,95,938	2,04,742	70,66,841	1,83,109	49,25,392
	France		3,000		8,000		5,000	182	11,609	1,167	57,216	43,130	10,08,904
	Italy (including Fiume)		-		-		-	3,580	1,59,161	2,025	78,885	-	-
	Czechoslovakia		97,000		2,24,000		88,000	-	-	5,787	1,38,191	8,420	1,78,828
	U.S.A. (A/C)		-		-		-	2,363	93,887	1,288	57,798	-	-
	U.S.A. (P/C)		-		-		-	-	-	1	90	-	-
	Germany		1,18,000		1,88,000		2,91,000	-	-	-	-	-	-
	Netherlands		19,000		7,000		41,000	-	-	-	-	-	-
	Japan		4,77,000		4,87,000		7,15,000	-	-	-	-	-	-
	Other Countries		3,000		1,000		-	38	833	191	8,678	35,887	7,70,422
	Total		21,34,000		25,42,000		23,70,000	164,181	39,42,489	2,79,409	96,64,830	357,804	1,00,72,272

APPENDIX VI
(Vide paragraph 14)

STATEMENT SHOWING C.I.F. PRICES, CUSTOMS DUTY, CLEARING CHARGES, LANDED COST AND SELLING PRICES OF IMPORTED SHEET GLASS.

SOURCE OF INFORMATION	ORIGIN OF IMPORT	DATE OF IMPORT	TYPE AND SPECIFICATION	C.I.F. Rs. as. ps.	CUSTOMS DUTY Rs. as. ps.	CLEARING CHARGES Rs. as. ps.	LANDED COSTS Rs. as. ps.	SELLING PRICE Rs. as. ps.	REMARKS
1	2	3	4	5	6	7	8	9	10
			SHEET GLASS	(Per 100 sq.ft)	(45%)				
M/s.Bhartomal & Co., Bombay	Belgium	Present date	16/18 oz. size	18 10 0	8 6 1	1 0 0	28 0 1	28 0 0 to 32 0 0	
M/s. Tribhuwandas Menek Lal Tekatwala, Ahmedabad	Belgium	May/June 1949	16 oz. size of 40"united	18 12 6	8 7 3	1 0 0	28 3 9	31 0 0	
	France	-do-	-do-	16 1 0	7 3 8	1 0 0	24 4 8	29 0 0	
M/s. Baluja Glass Company, Delhi.	Belgium	-do-	16 oz.size of 40" united in case of 100 sq. ft.	18 12 6	8 7 3	1 0 0 + Railway freight from Bombay to Delhi 5 0 0	33 3 9	38 0 0	
	France	-do-	16 oz. size of 40" united in case of 100 sq.ft.	16 1 0	7 3 8	1 0 0 + Railway freight from Bombay to Delhi 5 0 0	29 4 8	33 0 0	
N. Mittar & Co. Ltd., Calcutta.		Postwar	Per case of 100 sq.ft. B. quality in category 16 oz. thick.	20 0 0	9 0 0	1 0 0	30 0 0	32 0 0	
					(30%)				
M/s.H. Manory & Co. Ltd., Calcutta.	Belgium	Oct.1948	16 oz. 100 Sq.ft.	20 3 9	6 1 1	1 1 9	27 6 7		
	-do-	-do-	-do-	21 10 0	6 7 10	1 2 0	29 3 10		
M/s. Sepulchre Bros. (India) Ltd., Bombay		February 1949	16/18 oz. upto 40" united	18 15 4	8 10 5	1 0 0	28 14 9		
Collector of Customs, Bombay.	Belgium	24.5.49	Lob 16 oz.						
			0/40"	18 12 5					
			40/50"	21 3 9					
			50/60"	25 3 1					
			60/70"	26 6 6					
			70/80"	27 0-10					
	France	27.5.49	16 oz. [illegible]						
			0/40"	16 7 6					
			40/50"	18 2 5					
			50/60"	19 15 4					
			60/70"	21 5 5					
			70/80"	23 3 1					
	Sweden	20.4.49	B QUALITY 16 oz. 0/40" (100 sq. ft.	21 2 10					
			40/50"	23 4 0					
			50/60"	25 4 4					
			60/70"	29 5 7					
			70/80"	32 11 5					
Collector of Customs, Madras.	France	8.7.49	16 oz.	18 0 0					
Collector of Customs, Calcutta.	-do-	June,49	-do-	21 10 0					
					(40%)				
O. Wilkinson, Esq., Representing Pilkington Brothers, Ltd.	U.K.	April,49	24 oz. 40" united	30 11 6	13 13 2	1 12 6	46 5 2		
			50"	34 0 11	15 8 3	1 15 7	51 8 9		
			60"	34 0 11	15 5 3	1 15 7	51 5 11		
			70"	41 1 1	18 7 8	2 4 0	61 14 11		
			80"	41 1 1	18 7 8	2 6 0	61 14 11		
			90"	50 12 1	22 13 6	2 15 1	76 8 7		
			100"	50 12 1	22 13 5	2 15 1	76 8 7		

APPENDIX VI (contd)

1	2	3	4	5	6	7	8	9	10
			24 OUNCES SHEET GLASS						
Denis Malcolm & Co. Ltd., Calcutta.	England	Oct.48	upto 40" united	30 11 6	9 3 5	0 12 0	40 10 11	46 12 3	
			50" United	34 0 11	10 3 6				
			60" "	34 0 11	10 3 6				
			70" "	41 1 1	12 6 2				
			80" "	41 1 1	12 6 2				
			90" "	50 12 1	15 3 7				
			100" "	50 12 1	15 3 7				
Sepulchre Bros. (India) Ltd., Bombay.		Feb., 49	Upto 40" united	28 4 1	5 7 8	1 8 0	38 3 9		
M.Mitter & Co. Ltd. Calcutta.		Postwar	-do-	30 0 0	(45%) 13 8 0	1 8 0	45 0 0	46 0 0	
Collector of Customs, Bombay.	Belgium	24.5.49	24 oz. Lob (per 100 sq.ft.)						
			0/40" -do-	28 14 5					
			40/50" -do-	32 0 7					
			50/60" -do-	34 15 5					
			60/70" -do-	37 11 1					
			70/80" -do-	40 10 11					
	France	27.5.49	B.S.C.24 oz.						
			0/40" 100 sq. ft.	24 11 3					
			40/50" -do-	27 3 6					
			50/60" -do-	29 11 10					
			60/70" -do-	32 4 3					
			70/80" -do-	34 12 6					
	Sweden	20.4.49	24 oz. "B" quality						
			100 sq. ft. 0/40"	31 5 10					
			40/50" -do-	34 8 11					
			50/60" -do-	37 8 8					
			60/70" -do-	40 9 2					
			70/80" -do-	43 11 4					
Collector of Customs. Madras.	Belgium & France	5.7.49	24 oz.	44 8 0					
Collector of Customs, Calcutta.	Belgium	June,49	-do-	28 2 0					
	U.K.	-do-	-do-	31 4 0					
Sepulchre Bros. (India)Ltd., Bombay.		Feb., 49	32 oz. 40" united	46 6 11	13 14 11 (30%)	1 8 0	61 13 10		
Collector of Customs, Bombay.	Belgium	24.5.49	LOB 32 oz.40"	47 9 11					
			40/50"	52 5 0					
			50/60"	57 5 1					
			60/70"	61 11 3					
	France	27.5.49	32 oz. 0/40"	32 15 0					
			40/50"	36 0 9					
			50/60"	39 10 7					
			60/70"	43 0 7					
			70/80"	46 6 5					
Collector of Customs, Madras.	Belgium & France	5.7.49	32 oz.	50 0 0					
Collector of Customs, Calcutta,	Belgium	May, 49	32 oz.	50 0 0					

APPENDIX VII

(*Vide* paragraph 26)

STATEMENT SHOWING THE QUANTITY AND VALUE OF DIFFERENT ITEMS OF BLOWNWARE AND PRESSEDWARE IMPORTED FROM VARIOUS SOURCES DURING THE YEARS 1936-'37 TO 1938-'39 AND 1946-'47 TO 1948-'49.

Items of Glassware	Origin of Import	FOR THE PERIODS 1936-'37 TO 1938-'39 AND 1946-'47 TO 1948-'49								
		1936-37	1937-38	1938-39	1946-47		1947-48		1948-49	
		Value	Value	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9	10	11
		Rs.	Rs.	Rs.	Grs.	Rs.	Grs.	Rs.	Grs.	Rs.
Bottles & Phials-										
(a) Soda Water Bottle	United Kingdom	1,35,000	1,39,000	95,000	3,492	73,496	3,153	81,482	2,280	59,434
	Other British possessions	5,000	--	1,000	--	--	--	--	--	--
	U.S.A.	--	--	--	167	4,132	6,109	1,78,550	3,006	64,096
	Germany	1,70,000	1,21,000	1,10,000	--	--	--	--	--	--
	Japan	2,30,000	2,87,000	3,22,000	--	--	--	--	--	--
	Other countries	4,000	3,000	5,000	--	--	4	287	1,067	52,876
	Total	5,44,000	5,50,000	5,33,000	3,659	77,628	9,266	2,60,319	6,353	1,76,406
(b) Others	United Kingdom	1,08,000	1,15,000	1,32,000	65,999	12,12,482	1,59,548	9,06,058	16,366	1,56,281
	Ceylon	20,000	17,000	6,000	1,994	21,255	4,892	59,606	1,076	13,769
	Burma	--	1,000	5,000	--	--	1,11,156	21,714	--	--
	Australia	--	--	--	4,722	44,901	205	1,822	37	461
	Pakistan (Western)	--	--	--	--	--	733	10,513	3,672	62,807
	Belgium	17,000	8,000	3,000	--	--	1,032	65,482	--	--
	U.S.A.	13,000	13,000	5,000	5,351	61,545	45,197	7,21,653	9,224	1,95,249
	Sweden	92,000	42,000	40,000	--	--	--	--	--	--
	Germany	5,74,000	6,03,000	4,59,000	--	--	--	--	--	--
	France	4,000	3,000	6,000	--	--	--	--	--	--
	Czechoslovakia	2,000	59,000	1,16,000	--	--	--	--	--	--
	Japan	11,52,000	15,13,000	14,47,000	--	--	--	--	--	--
	Other countries	28,000	7,000	41,000	192	6,413	873	19,060	331	66,783
	Total	18,11,000	23,81,000	22,82,000	78,258	13,68,596	3,23,636	18,03,908	30,726	5,08,470
Funnels, Globes and Glass parts of Lamps	U.K.	27,000	34,000	41,000	--	33,245	--	84,060	--	43,987
	Netherlands	--	--	--	--	2,871	--	12,149	--	--
	U.S.A.	26,000	31,000	23,000	--	1,08,702	--	85,763	--	1,92,098
	Czechoslovakia	98,000	1,05,000	79,000	--	8,196	--	75,183	--	--
	Germany	2,79,000	3,43,000	2,53,000	--	--	--	--	--	--
	Belgium	11,000	11,000	4,000	--	--	--	--	--	--
	Austria	42,000	74,000	39,000	--	--	--	--	--	--
	Japan	1,13,000	61,000	71,000	--	--	--	--	--	--
	Hungary	5,000	8,000	5,000	--	--	--	--	--	--
	Other countries	3,000	5,000	3,000	--	179	--	5,967	--	45,592
	Total	6,06,000	6,90,000	6,17,000	--	1,51,194	--	2,63,122	--	2,81,677
Table-ware (including decanters, tumblers, etc.)	U.K.	31,000	36,000	61,000	--	10,65,293	--	5,40,895	--	1,54,129
	Kenya Colony	--	--	--	--	10,919	--	--	--	--
	Canada	--	--	--	--	--	--	57,383	--	--
	Pakistan (Western)	--	--	--	--	--	--	12,778	--	7,005
	Sweden	--	1,000	2,000	--	--	--	19,694	--	1,055
	Netherlands	--	--	--	--	4,929	--	62,947	--	13
	Belgium	9,000	9,000	14,000	--	75,337	--	2,75,661	--	187
	France	--	--	--	--	5,255	--	23,906	--	8
	Czechoslovakia	9,000	16,000	34,000	--	65,144	--	3,54,746	--	14,464
	U.S.A.	--	--	--	--	14,78,728	--	105,59,150	--	40,607
	Germany	41,000	51,000	40,000	--	--	--	--	--	--
	Italy	--	1,000	5,000	--	--	--	--	--	--
	Austria	7,000	6,000	4,000	--	--	--	--	--	--
	Japan	3,52,000	4,73,000	4,26,000	--	--	--	--	--	--
	Other countries	3,000	1,000	4,000	--	6,079	--	6,934	--	6,081
	Total	4,52,000	5,97,000	5,90,000	--	27,06,684	--	1,20,35,214	--	2,28,529

NOTE: Figures of imports by quantity are not available upto 1938-'39.

APPENDIX VIII

(Vide paragraph 28)

STATEMENT SHOWING C.I.F. PRICES, CUSTOMS DUTY, CLEARING CHARGES, LANDED COSTS AND SELLING PRICES OF IMPORTED GLASSWARE.

SOURCE OF INFORMATION	ORIGIN OF IMPORT	DATE OF IMPORT	TYPE AND SPECIFICATION	C.I.F. Rs. A. P.	CUSTOMS DUTY Rs. A. P.	CLEARING CHARGES Rs. A. P.	LANDED COSTS Rs. A. P.	SELLING PRICE Rs. A. P.	REMARKS
1	2	3	4	5	6	7	8	9	10
			BOTTLES						
M/s. Parry & Co. Ltd., Madras.	U.K.	1946-47	1lb. Honey Jars.	25 12 0	(30%) 7 11 7	1 0 0	34 7 7	38 0 0	All the rates mentioned are per gross.
	U.K.	1946-47	8 oz. Cork Bottles.	17 8 0	5 4 0	0 6 0	25 4 0	26 0 0	Do. Do.
	U.K.	1949	8 oz. Cork Bottles.	21 6 0	6 7 2	0 9 0	28 6 2	30 0 0	Do. Do.
	U.K.	July, 1949	16 oz. tincture Bottles.	*34 4 0	10 4 5	1 14 0	116 6 5		They have not imported for sale. *The C.I.F. includes a commission of Rs. 1-14-3
Collector of Customs, Madras.	U.K.	July, 1949	16 oz.	33 4 0					All the rates mentioned are per gross.
			LAMPWARE						
Collector of Customs, Calcutta.	U.K. Hongkong	June, 1949 June, 1949	252 size 303/275 size	42 6 0 per dozen 27 0 0 per dozen					
			TUMBLERS						
M/s. Parry & Co. Ltd., Madras.	U.K.	9-6-1947	1 pint Tumblers	46 4 0	13 14 0	1 2 0	61 4 0	63 0 0	The information given Rs. per gross, the C.I.F. rate covers our agency commission of Rs. 2-8-0. That is in all we got Rs. 4-2-0 per gross
Collector of Customs, Madras.	U.K.	9-6-1947	1 pint	46 0 0					
Collector of Customs, Calcutta.	Japan Japan	May, 1949 May, 1949	Large Medium	40 8 0 36 0 0					
Collector of Customs, Bombay.	U.K.	24-6-1949	Press Fluted Tumblers P.20 ½ pint i.e. 10 ozs.	26 1 9					
Collector of Customs, Bombay.	U.K.	24-5-1949	Blown Tumblers P.4, ½ pint. i.e. 10 oz.	19 0 10					
	U.K.	24-5-1949	Blown Tumblers P.38, 12 oz.	24 6 10					
	U.K.	1-6-1949	10 oz. plain green fluted.	44 14 10					
	U.K.	1-6-1949	18 oz. plain green fluted.	30 12 10					
	U.K.	1-6-1949	5 oz. plain.	28 0 2					
	U.K.	1-6-1949	12 oz. fluted	41 11 1					
	U.K.	1-6-1949	10 oz.	20 3 0					
	Japan	11-6-1949	10 oz.	42 6 0					
	Japan	11-6-1949	8 oz.	40 15 0					
	Japan	11-6-1949	10 oz.	45 0 0					
			GLASS TILES MANGALORE						
Collector of Customs, Bombay.	Czechoslovakia.	--	410 X 235 m.m. or 16"X9".	601 2 0 per gross.					
			LEMON SQUEEZERS						
Collector of Customs, Bombay.	U.K.	--	Flint No.5 5" to 5½"	56 2 0 per gross.					
	U.K.	--	Doric 5" to 5½"	92 1 0 per gross.					
	Japan	--	Pressed No. 1222. 5" to 5½"	46 5 0 per gross.					

APPENDIX IX

(*Vide* paragraph 36)

STATEMENT SHOWING VALUE OF GLASS BANGLES IMPORTED INTO THE COUNTRY FROM VARIOUS SOURCES DURING THE PERIOD 1936-37 TO 1938-39 AND 1946-47 TO 1948-49.

ARTICLE	ORIGIN OF IMPORTS	1936-37	1937-38	1938-39	1946-47	1947-48	1948-49
		VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bangles	Netherlands	-	-	-	31,949	22,884	-
	Czechoslovakia	11,38,000	13,22,000	9,46,000	1,84,505	4,23,940	456
	Hongkong	12,000	14,000	49,000	-	-	-
	Other British Possessions.	1,000	1,000	3,000	-	-	-
	Germany	47,000	95,000	43,000	-	-	-
	Japan	14,88,000	13,58,000	13,10,000	-	-	-
	China (excluding Hongkong & Macao).	1,15,000	1,30,000	87,000	-	-	-
	Other Countries	1,000	6,000	3,000	8,711	44	88
	Total	28,02,000	29,26,000	24,20,000	2,26,165	4,46,868	544